

U.S.I. JOURNAL

INDIA'S OLDEST JOURNAL ON DEFENCE AFFAIRS

(Established 1870)



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SD Pradhan

JANUARY-MARCH 1972

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USI GOLD MEDAL PRIZE ESSAY COMPETITION 1972

(A) OPEN TO ALL

In the light of 1971 Indo-Pakistan War and consequent developments on the subcontinent discuss the Defence Policy that India should pursue in the seventies. Do you see any major requirement for changes in the size and shape of the armed forces to implement this policy.

(B) OPEN TO JUNIOR OFFICERS

The Indo-Pakistan War of 1971 has brought out certain military lessons. Discuss the lessons. Do these lessons suggest in any way that the training, tactics or organisation of our armed forces need any modifications.

RULES

1. Competition (A) is open to all Commissioned Officers of the Armed Forces of India, the United Kingdom and other Commonwealth Countries, officers of the Territorial Army and the Senior Division of NCC and Gazetted Officers of the Civil Administration in India.

2. Competition (B) is restricted to Captains and Majors with not more than 10 years' service and the officers of equivalent rank in Navy and Air Force, officers of the Territorial Army and the Senior Division of NCC and Gazetted Officers of the Civil Administration in India.

3. Essays may vary in length between 4,000 and 8,000 words. Should any authority be quoted in an essay, the title of the works referred should be given.

4. Essays should be typed on one side of the paper (double spacing) and submitted in triplicate.

5. Entries will be strictly anonymous. Each essay must have a motto at the top instead of the author's name and must be accompanied by a sealed envelope with the motto outside and with name and address of the competitor inside. These envelopes will be opened by the Chairman of the Executive Committee at the Council meeting, after the judges have given their decision.

6. The judges will have two criteria in mind: (a) the extent to which the contribution throws fresh light on the subject, and (b) whether, in whole or in large part, it is in a form suitable for publication.

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9. The award of the judges appointed by the Council of the Institution is final.

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11. All essays should be sent to the Secretary, United Service Institution of India, Kashmir House, New Delhi-11, to be received not later than 30 November 1972. The envelope should be marked as follows:—

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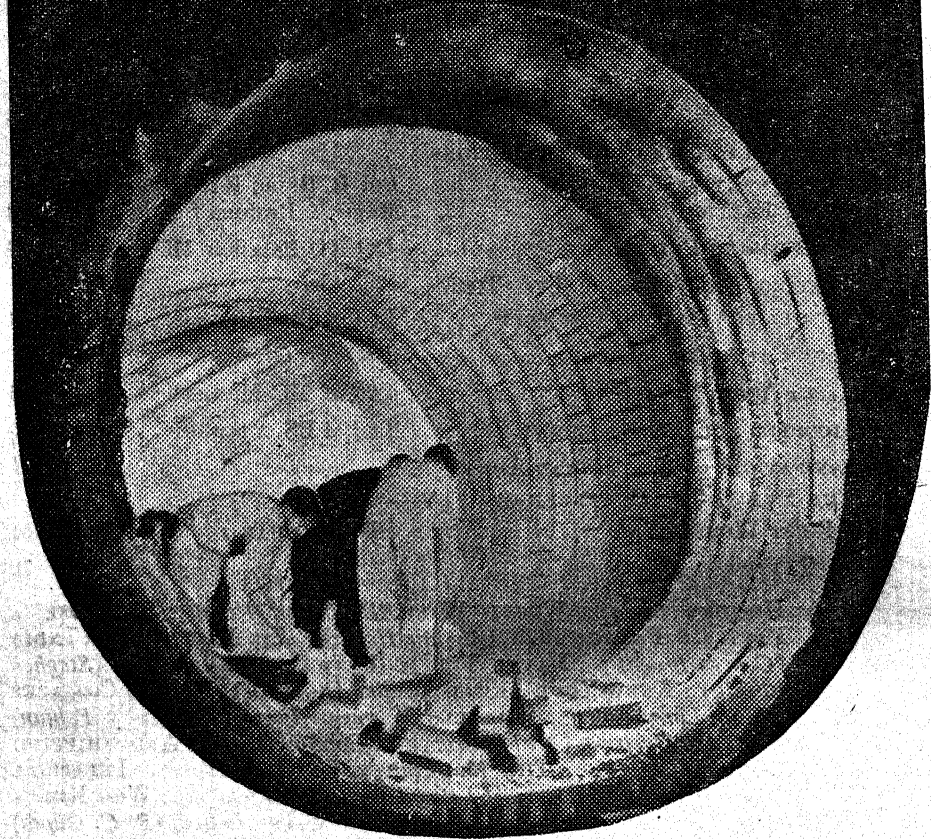
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DEFENCE PLANNING AND PREPARATIONS —NEW IMPERATIVES

COLONEL R RAMA RAO (RETD)

THE EVENTS OF 1971

TO say that the events of 1971 marked the end of one stage in the evolution of countries of the sub-continent and the beginning of another would be stating the obvious. The events of 1971 developed the way they did despite positive efforts by some global and other Powers. Hence the reluctance of the Powers concerned to accept present realities. Hence also the possible danger of some at least of the Powers persisting in their efforts if not to reverse the course of history at least to initiate trends towards the re-establishment of conditions wherein the countries of the sub-continent would expend their resources and energies in mutual conflict and so permit external Powers to order the affairs of the region as it suits their own interests. Herein lies the danger to India, Bangla Desh and all other peace-loving countries in the sub-continent, and eventually even to Pakistan.

General Yahya Khan and his lieutenants appreciated that conceding the principle of complete autonomy to East Pakistan (as it then was) would mean restoration of trade relations with India and an end to the policy of confrontation. That would have meant a reversal of the policy that Pakistan had chosen to adopt right from its inception. It would also have meant a reduction not only in the size of Pakistan's armed forces but also in its power. Finally it would have meant an end to the dominance of West Punjab in Pakistan's affairs. These, the ruling elite of Pakistan were unprepared to accept.

They reasoned that if overwhelming force was used swiftly and suddenly to crush Bengali nationalism by eliminating leadership cadres of the Awami League, Bengal's autonomy movement would be contained. The armed forces could then methodically set about securing the "final solution for the East Pakistan problem" in terms of which Bengal's intellectuals and every male Bengali with leadership potential would be "eliminated"; the

minority community numbering 12 million would be decimated or driven out; Bengali language reduced to the status of a dialect and Urdu introduced as the sole language of administration and commerce; overall, Bengali population would be reduced to a minority in Pakistan and gradually West Pakistanis inducted into the East Wing to create a new people fanatically loyal to Pakistan.

The critical phase according to them, would be the first one of liquidating the top leadership cadres of Bengalis. General Tikka Khan had assured General Yahya Khan that he would be able to restore "complete order" in the province within 72 hours. Even if it took a little longer than 72 hours, General Yahya Khan and his adviser appeared to be confident that they could 'solve' the Bengali problem by the use of overwhelming force. The President had taken the precaution of obtaining the promise of full diplomatic support as well as military support short of actual intervention with troops both from the USA and China. He had also taken the precaution of massively reinforcing the East Wing in preparation for the planned massacres.

India could be held in check by political and other pressures from USA and China. Apparently, Pakistan's patrons too endorsed General Yahya Khan's assessments and plans. When massacres, arson, and other acts of terrorisation failed to subdue Bengali nationalism and when Super Power pressures and threats failed to deter India from sheltering ten million helpless refugees and sustaining freedom fighters, Gen Yahya Khan prepared to strike in the West in a bid to seize Jammu and Kashmir and if possible some areas of Punjab and Rajasthan as well so as to be able to trade those areas for the East Wing. USA secretly and China not quite so secretly, supplied arms and equipment and supported Pakistan's plans. Evidently, USA believed that Pakistan's professional officers and men were more than a match for India's, especially as Pakistan had better weapons and equipment and numerically were not inferior to the forces that India could muster on the critical Western front which in any Pakistan—India confrontation will be the decisive theatre.

Pakistan, as well as American and Chinese expectations were that General Yahya Khan may just manage to retain his grip on the East Wing. However, if he failed in that venture, by a pre-emptive strike in the West, Pakistan's powerful air and ground strike forces would, by a quick and stunning blow, paralyse at least a part of India's defences in Kashmir, Punjab and/or Rajasthan and capture sufficient real estate to enable Pakistan's powerful friends to force India to accept a settlement on their terms. When Pakistani forces in the East collapsed much earlier than expected and when its well armed and well drilled forces in the West failed to make any headway despite their heavy losses in equipment and men, Pakistan's

patrons made determined efforts to bail out Pakistan diplomatically in the UN and militarily by despatching a nuclear task force to evacuate Pakistan's beleaguered garrisons. These efforts indicate the extent of Great Power commitments to Pakistan and correspondingly the extent of the wrath and pressures that India may encounter in attempting to adhere to her policy of independence, maintenance of peace in the region and non-involvement in Super Power confrontations. This is the context in which our defence policy and programme for the decade ahead has to be charted. Hence the relevance of examining briefly the main strategic and tactical lessons brought out during the 14 day war. The changing power alignments in the context of global and regional affairs and the present and future military potential of possible adversaries are no less relevant.

SOME LESSONS

The main lessons that became obvious even as General Yahya Khan launched his surprise preemptive air and land strikes on December 3, 1971, were that for any campaign to succeed, political objectives must be clearly defined and firm political direction must be retained throughout in order that military goals—completely in consonance with national political objectives—are chosen and unified military action is directed to attain the goals selected. Further, political objectives and policy must take full cognisance of military realities—that is, while political policy takes primacy it must needs take note of military capabilities and the time factor in developing mutually sustaining diplomatic and military postures and action.

As a corollary, long term intelligence and strategic assessments must be made by a qualified body which can objectively evaluate intelligence and political, economic and technological projections and so arrive at fair assessments. Such assessments in turn would lead to a series of contingent plans, enabling national leaders to deal with developing situations diplomatically on the one hand and service leaders on the other, to take silent preparatory action to modify contingent plans and be ready to implement them as occasion demands. A point of importance which deserves special emphasis is that in the political environment now obtaining, it will be difficult for a power to keep fighting indefinitely. Even a Super Power has found it necessary to create political groupings so as to impart to its military operations a flavour of international action. Again, even with powerful external support, General Yahya Khan found it impossible to suppress by armed action the struggle for freedom of an exploited people. Had he quickly succeeded in suppressing Bengali nationalism, his patrons would have given him all the help needed to ensure that the torch of freedom would never be kindled again in that country. Also if the war that Pakistan launched in a move to transform the Pakistan-Bangla Desh struggle into an Indo-Pakis-

tani affair had not quickly and successfully concluded, Pakistan's backers would have compelled this country to accept Pakistan's terms *in toto*. The moral therefore is that for this country which, by pursuing an independent policy, has incurred the wrath of two Great Powers, it has become imperative to be able to defend itself *effectively and quickly* against aggression by neighbours enjoying outside patronage.

At the operational level the principal lessons were that the three services must act in perfect unison if effective national defence at bearable cost is to be achieved. In the environment in which the forces would be called upon to act in the future, no operation would be a single service operation. All three would be involved in one from or other. Hence defence plans have to be evolved jointly by the three Services and the plans would have to be implemented jointly. This accent on the joint nature of planning and conduct of operations would ensure that risks are realistically assessed from the stand point of national objectives rather than of individual service preferences and that operations are launched and conducted under conditions providing maximum effectiveness.

In 1971 such joint planning and conduct of operations was accomplished entirely on an *ad hoc* basis primarily because of the personalities of the three Chiefs of Staff, the confidence which the Prime Minister reposed in them, and the role played by the Defence Secretariat under the guidance of the Defence Minister. In theory, changes in the holders of these high offices should not make any difference to the way in which policy is evolved and contingent plans are developed and implemented. In practice however, very much would depend on individual personalities—especially when no formal organisation exists and procedures have to be settled on the spur of the moment, and plans finalised in a race against time. Since the welfare of the nation—indeed its very existence as a free and independent country—would depend on the way a crisis is handled, it is much too risky to depend on the spirit of accommodation of individual holders of particular offices, ignoring the need for a sound organisation for defence operational planning.

Irrespective of the nature of the crisis situations that the country may have to encounter in the future it would be necessary to have a national security body. The political body at the apex such as one in existence under the chairmanship of the Prime Minister has to be served by a permanent staff body. The External Affairs Policy Planning Body suitably reinforced would be adequate but it is essential that this body should continue to be headed by a political personality and strengthened by the inclusion of competent representatives from the Defence Services. Nowhere is the need so great as in the field of intelligence gathering and assessment,

The prejudices against defence services—an unfortunate inheritance from the past—have not as yet disappeared although political leadership has recognised and accorded the armed forces their proper role as an effective instrument for safeguarding national security within the framework set for them by political leadership.

For the armed forces to be effective—that is for the country to get the maximum security out of the funds voted for national defence—a Chief of Defence Staff who can direct Joint Staff Planning and conduct of operations is thus essential. For the Chief of Defence Staff to be effective, he must be served by a competent body of Joint Staff drawn from all the three Services who could deal with intelligence, joint training, joint planning and the conduct of operations—which as stated earlier would necessarily involve more than one service in any future crisis situation.

Another aspect of the problem whose significance does not seem to have been fully appreciated either in governmental circles or outside, is that apart from want of co-ordination in operational planning which the present system makes it difficult to achieve, in a great many areas the system promotes duplication of effort—and inefficiency. As stressed earlier, the 1971 operations succeeded only because of a unique combination of forceful but cooperative and dedicated personalities.

For the future, demands for funds for the three Services, especially the Navy and the Air Force would increase.

Since the availability of funds will be strictly limited, allotment to individual services would have to be based on *overall needs* and in accordance with carefully evolved priorities. A useful institution would be a Defence Planning Committee with a Junior Minister or other public figure as Chairman under whose direction, representatives of the three services could study and formulate long term equipment plans for the forces. Long term equipment plans would have to be evolved in the light of possible technological developments abroad, the progress attending our attempts to absorb advanced technologies, our own R & D efforts, our overall plans for industrialisation and above all our threat perceptions in the long term, intermediate and near time frames.

Such long term equipment planning for defence would enable us to proceed on sound lines with the task of building up our defence forces for the future. It would also provide the necessary impetus for vigorously expanding key sectors of modern industry, such as electronics, aircraft, ship-building and heavy engineering. Also individual services have tended in the past to maintain their own logistic organisations. The Secretariat hitherto has not been conspicuously successful in streamlining these

organisations. Medical Services are the only supporting service who have been functioning as a unified service for all the three branches of the armed forces.

A measure of unification—certainly rationalisation—is possible in most other branches of logistic support. Other areas—not strictly logistic—where unification/rationalisation would promote efficiency and economy are in the field of education and communications within the armed forces.

A Joint Staff can and ought to take charge of all aspects of coordination of activities within the three armed services. This staff would be part of the Ministry of Defence proper, whose secretarial element could then attend to their proper role of serving the Defence Minister and his junior colleagues, deal with other central ministries, State Governments and the public and attend to budget, pay, pension and personnel policies as well as miscellaneous administrative duties.

The organisational changes—namely the institution of a Defence Planning Committee with a Minister of State (or a Deputy Minister) as Chairman, a Chief of Defence Staff heading a competent and adequate Joint Staff and the redefinition of the proper role of the secretarial element of the Defence Minister—would seem to be long over due. The present time is opportune to introduce the changes.

The strategic environment that is likely to prevail in the future time frame and our role in the region as we visualise it, would broadly determine the size of our armed forces and equipment that they should have.

The global strategic environment in the Seventies will be characterised by American efforts to maintain its lead in strategic weaponry, with Russia attempting to draw level as soon as possible. Although American ICBM inventory stands at 1054 as declared by Mr Laird, American lead in key areas of weapon technology such as MIRV, underwater detection and monitoring system and computer technology is so clear that it would take Russia at least five years to approach America's present level. Russian rate of submarine building appears to be faster than America's but given American superiority in detection systems and the greater delivery accuracy of America's multiple war heads, it is unlikely that Russia will over take America in overall strategic weaponry in the current or coming decade. But as Russia builds up her weaponry, American efforts to maintain its *present ratio of superiority* will become progressively more expensive. Hence American strategy to retain its overall superiority rests on four approaches. Firstly by persuading Russia (through the medium of talks at Helsinki and Vienna) to freeze, as far as possible, strategic inventories at their present levels. The first SALT agreement judging from official pronouncements is

likely to fix limits on ABM deployments which would mean that neither side would have provocations to increase their attack weapons. It would also, hopefully, set some limits on the offensive or attack weapon systems of both powers. Secondly America would introduce into service during the second half of the decade, the powerful advanced manned strategic bomber (AMSA) and its associated weaponry, the SCAD and SRAM and continue with its programme of "mirving" its land based as well as sea-based strategic weapons. These measures would compel Russia to devote its energies both to the development of its *defensive* as well as its *offensive* weapon systems and thus *prevent* Russia from significantly increasing its strike potential vis-a-vis America. Thirdly, by drawing closer to China, the latter could be persuaded to devote her resources to develop and deploy IRBMS, which would *increase* the threat to Russia and Russia's close allies in the near time frame and correspondingly *improve* the overall strategic balance of America vis-a-vis Russia. Reportedly President Nixon and Dr Kissinger during their recent Peking talks assured China that USA is not hostile to that country—and by implication China need worry only about her northern neighbour. President Nison also reportedly offered to provide China with satellite pictures of the long and uneasy Sino-Soviet borders, thus enabling China to target her IRBMS more effectively on Russia.

Fourthly, to seek to shut out Russian underwater fleet from as many strategic seas as possible and so improve the servicing and survivability factor of America own underwater fleet, and thus enhance America's strategic lead over Russia.

America's prime strategic concern is thus Russia. South Asia is of very limited significance, as indicated by one school of American strategists. Even so, American commitment to China and Pakistan—two powers who together have physically invaded this country on five occasions during the past twenty five years causes this country justifiable anxiety.

In a recent statement, President Nixon referred to ethnic and other minority problems in India. Premier Chou En Lai has referred on more than one occasion to "nationalities" problems in India. And more recently Mr. Chou En Lai in the joint communique issued on the eve of President Nixon's departure from China saw fit to refer to Kashmir, underlining China's support for the right of the people of Kashmir for "self determination".

The warning to India from these countries that China would do all it can to foment trouble in Jammu and Kashmir and in our Eastern states is clear and loud. Both countries have also declared their unqualified support for Pakistan. The later is still unprepared to adjure the use of force in resolving its disputes with this country. Further, it has declared its intention of building up the "finest armed forces" in Asia. Since Pakistan's leaders have frankly been declaring that their only enemy is India, it is

cumbent on Indian leaders to maintain vigil—while continuing with our national policy of seeking the friendship of all countries and especially our neighbours.

This indicates the measure of the threats to our security. In the worst contingency, a re-armed and resurgent Pakistan could renew its efforts to annex Kashmir by a more massive pre emptive strike than the one delivered in December, 1971. China at that time could support Pakistan in a variety of ways. She could mobilise troops in Western Tibet seeking to enlarge the area of Aksai Chin in her illegal occupation. She could simultaneously increase the size of her "road building force" in the Gilgit area from its present level of 20,000 to two or three times that number. She could also mount an offensive across our borders in Arunachala either from Tibet or from Chungtien.

A force of approximately five to seven division could be inducted into Pakistan occupied Kashmir and Western Tibet from bases in Sinkiang and another five to three divisions into Arunachala or on other northeastern states from Chungtien area. These forces would supplement the assault troops already in position in Tibet numbering over fifteen infantry divisions.

China could combine these with a subtle nuclear threat by positioning one or more batteries of IRBMS in Tibet so as to have within its reach our industrial and political centres in Eastern and Northern India. At the bottom end of the spectrum she could step up support to dissident elements in Jammu and Kashmir and in the Eastern states and so foment internal unrest.

This is the magnitude of threat that China could pose, which our defence planners would have to take steps to ward off.

Pakistan refrained from launching all her main strike forces in the Western sector in the fall of 1971, on the advice of her patrons who probably felt that if the fighting continued another 72 hours—or even another 48 hours—the bulk of Pakistan's air and tank forces would be knocked out. This would have resulted in the fall of the entire military Junta and the possible emergence of a popular government—a prospect which Pakistan's arms donors did not apparently relish.

As of now, Pakistan's three Services have been purged of their top leadership. New commanders who have recently been inducted would need time to reorganise and retrain their commands. As President Bhutto has remarked to visiting Indian Journalists, manpower is not Pakistan's problem. Equipment is, up to a point. China has, reportedly made good losses in the equipment previously supplied by her. Chinese T-55 tanks

and MIG-19 planes would no doubt be supplied. But without American largesse, Pakistan's armed forces would not have the striking power that they would like to have. In its present mood it is doubtful whether American Congress would support the outright gift of American arms to Pakistan on a massive scale. In the absence of congressional support, the Administration could supply limited quantities of "surplus" equipment such as F-104 Mach 2 Starfighters, M-48 Patton tanks and M-113 APCs besides 'spares' for previously supplied American weapons. Even this would be formidable in the context of the conditions obtaining in the sub-continent.

Pakistan has an infantry force of not less than twelve divisions and an armoured force of the equivalent of three divisions intact. These could probably be reinforced by another, three infantry divisions and an armoured division—making for a total force of fifteen infantry divisions and four armoured divisions. This ground force would be supported by an air armada of at least twenty combat squadrons.

Pakistan's navy may take a little longer to rebuild but this would not result in Pakistan's ocean flank being exposed. From the West, Pakistan's CENTO partners would provide ocean guards, while from the South, units of American fleet either from the Gulf squadron or that from the new base of Diego Garcia would exercise surveillance.

It would, no doubt, be difficult for Pakistan to support a land force component of about twenty operational divisions and an air force component of twenty combat squadrons, together with auxiliaries necessary to keep these in combat readiness. This is particularly so in view of the economic—especially foreign exchange—difficulties she is facing. If, however, the United States in addition to donating equipment makes cash grants of the order of \$300 to \$400 million a year, Pakistan would go ahead vigorously with the task of re-training and re-equipping her armed forces.

Much would therefore depend on the extent of direct and indirect aid that America and China—especially America—decide to give Pakistan in the next two years.

This is a critical period, since it is in this period that Pakistan would have to take action to rebuild its military machine and forge plans for launching yet another attack on India.

In one of his recent Press interviews President Bhutto had remarked that till 1965 Pakistan—thanks to American support, had militarily an edge over India and could have enforced a military decision in respect of Kashmir. That opportunity, he said, had passed and would not occur

again. But from the standpoint of this country the issues are—How sincere is President Bhutto in his remark that Pakistan is not in a position to force a military solution on India in respect of Kashmir? Also does Pakistan recognise as Mr Bhutto seems to have hinted, that it is for the people of Kashmir to solve their problems? Also how secure is President Bhutto's own position as Head of State? This last is by no means an academic issue. Mr. Bhutto himself announced at a Press Conference at Lahore in March that if he cannot carry the people of Pakistan with him, he will quit. This prompted Khan Wali Khan to point out that the way to prevent a power vacuum in Pakistan is to convene the national Assembly forthwith so that it can, acting as a sovereign body, steer the country on a safe course. Khan Wali Khan and other popular leaders, no doubt, are apprehensive that should Mr. Bhutto step down—or be forced to step down—an army strong man may again take over, with all its attendant dangers of foreign control of the country's policies and tension within and without.

An unstable neighbour especially in the historical context in which Pakistan finds herself, is particularly susceptible to external pressures. And China, from Mr Chou En Lai's most recent pronouncements, has indicated its determination to foment trouble within our country involving Pakistan.

Those considerations make it imperative that we build up defence forces of sufficient strength and versatility which can deal with Pakistan's attempts to carry out pre-emptive air and land strikes across Jammu and Kashmir, Punjab/Haryana and/or Rajasthan. Simultaneously we must have forces in position on our Northern borders which can hold any attacks by China in Ladakh, the Middle sector, Arunachala or further East.

It would also follow that the country would need land forces with two components—one capable of warding off possible attacks from the North, and the other to deal with trouble emanating from the West. Considering the forces in being on the other side of our Northern borders and their possible future build up, our Himalayan forces ought not to be under eighteen mountain divisions. These would need extensive air mobility facilities in order that troops may be rapidly deployed from one sector of the theatre to another as operational need may dictate.

To deal with the threat on the Western front, a force of twenty infantry divisions and at least six armoured divisions would be necessary in order firstly to discourage attacks against us, and secondly to deal effectively with such attacks should they develop. To equip and sustain such a force we would need to step up our tank and gun production capacities urgently.

The air force would need to be built up eventually into a hundred squadron force, with a strong strike element and supported by adequate ground facilities. Those would not doubt be expensive, but we cannot afford *not* to have a strong air strike force, as weakness on our part would tempt interested foreign powers to prop up Pakistan once again and utilise that country as proxy to strike at us. Despite the events of 1971, Pakistan's utility as proxy for disrupting India does not seem to have reduced from the stand point of Pakistan's patrons.

The overall cost to the country would be within our means provided we utilise the opportunity build within the country the capacity to design and build advanced strike aircraft, for which plans have been under preparation for some time.

Our Naval forces would require very considerable expansion and modernisation. As our aircraft carrier, cruisers, and destroyers become due for replacement, the fleet would need to be equipped with newer fighting ships. Some of the types required are helicopter ships, destroyers/frigates capable of delivering surface to surface missiles as also surface to air weapons and a fairly large armada of well armed fast boats. This last component, though vital would need to be supported by bigger ships—hence the need for an adequate number of destroyers/frigates.

We have only just made a beginning in equipping our fleet with a few underwater vessels. This element would need to be strengthened very considerably.

In the matter of reequipping our navy—as that in the case with our air force—the key move is to set up facilities to build vessels/equipment. The Minister for Defence Production announced during the Budget Session of Parliament that steps are being taken to commission facilities for building submarines within the country. This has to be pursued with vigour. Simultaneously our ship-building capacity must be stepped up.

Although our plans for developing a simple short range surface to surface missile were made almost eight years ago, much remains to be done. Medium artillery would need to be replaced by missiles. Improved versions of such missiles could well be mounted on light motor boats. Longer range missiles would also be needed for equipping both land and naval forces. Developing these weapons has become increasingly important.

Our policy—as affirmed by the Prime Minister only recently—continues to be to develop nuclear energy for peaceful purposes only. This is a laudable objective. But in view of China's rapidly increasing nuclear

arsenal and her posture of continued hostility towards us, a stage perhaps has been reached when prudence demands that we acquire the *capacity* to build a reasonable arsenal. If nuclear powers continue to enjoy special "directorates" rights at the expense of peace loving and unarmed and non-aligned countries, it would be wrong on our part not to exercise our right to be suitably armed for ensuring our defence. This is especially important because of our position as a non-aligned power. Even though we have a treaty of friendship with the Soviet Union in terms of which we can take counsel with them in the events of threats against our security, the less we invoke aid under the treaty the better both for the Soviet Union and for ourselves.

CONCLUSION

In sum, the danger of Pakistan supported by others, once again attacking us is still there. To prevent such attacks from materialising and to overcome the attacks should they develop, the country would need land forces capable of holding the northern frontier while dealing with attacks across the western border. An overall land force element of at least six armoured divisions, and thirty-five to forty infantry divisions with adequate air mobility would be needed. The air element would need to be at least a hundred squadron force. The naval element has also to be augmented very considerably in order that our coasts and island districts may be protected adequately. The build up has to be suitably phased with equal emphasis on large surface ships, small and fast boats equipped with effective weapon systems and underwater fleet—all provided with air cover.

To equip and sustain these forces, our defence production capacity in the areas of aircraft, shipbuilding, missiles and tanks would have to be considerably augmented.

On the organisational side, an effective Defence Planning Committee would be necessary to formulate and oversee the implementation of equipment plans. A Chief of Defence Staff and an adequate Joint Staff would be needed for envolving and carrying out joint operational plans. The Defence Secretariat could then carry out its proper role of providing secretarial service to the Minister, deal with other central ministries, State Governments and the public, as also attend to budgeting, personnel and routine administrative matters.

LEST WE FALTER

MAJOR K BRAHMA SINGH

AT the end of each war is the time for the nation to ponder. So should it be for us after the 14 days' war with Pakistan. It is now for us to make an honest assessment of our weaknesses and strong points as brought out by this war and start preparing for the next; who can now doubt the inevitability of wars? The decisive victory that we have won is a rare honour for the nation in general and the Armed Forces in particular. The danger lies in our becoming complacent and taking the future victory also for granted. We must remember that the present victory has been paid for very dearly and is the result of a decade of hard labour and sacrifice on the part of the Armed Forces and the nation. The future victory will also therefore depend on the labour and sacrifice that we put in today. The modesty with which the nation has taken the victory in its stride, indeed, reflects the maturity of the nation; an ideal background for preparing for the future one.

Generals have often been reproached with preparing for the last war instead of for the next. This probably is not true of our generals who, after the 1965 war, had certainly prepared for the next one that they fought in 1971. But the nation must also understand that any future war that we might have to fight may not follow the pattern of the 14-days war. For one thing it may last much longer and for another it may not be limited to our fight with Pakistan alone. Victory against Pakistan and China combined does not any longer appear wishful thinking, but is now a possibility. Not so however with our present state of preparedness, but certainly with a build-up which is well within our reach. This in fact should be our defence objective and we must not rest anywhere short of it.

THE 14 DAYS WAR

It would be as wrong to underrate our victory as it would be to overrate it. It is only the correct assessment that would both sustain our confidence in our selves as well as indicate the distance we have yet to cover to reach our defence objective. How we won the 14-day war can be summed up by saying that a set of circumstances presented themselves

before us and with superb political sagaciousness and generalship we converted them into a splendid victory. Much of the splendour of the victory, however, can be attributed to the total absence of political leadership in Pakistan, their poor generalship and moral degradation of their troops which brought about a much faster collapse than could be expected. The fact that we have been lucky does not in any way diminish our credit for winning the war. Luck is always an important war winning factor. The credit goes to the victor for exploiting his luck.

What is, however, pertinent in our assessment is the fact that the threat that we faced matched exactly with our State of defence preparedness. Besides, the fact that some favourable circumstances presented themselves before us, there were some unfavourable ones which could have appeared but did not. What the fate of the war would have been in case China and the US had intervend (even though in a limited way) is difficult to say, but the resuts couldn't have been as favourable as they have been. Would the Russians have risked a world war for our sake? Even if they had, it wouldn't have prevented an enormous defence burden from falling on our shoulders. Where was our capacity to shoulder anything more than we were doing?

Having had the advantage of facing only one of your two foes we should have been able to give even a mere crushing blow to Pakistan with a much lesser loss to ourselves had we been prepared or near prepared for both. We are four times the size of Pakistan and the world feels that we have won because of this. Yet we know that we hardly had any numerical or material superiority over them in the last war. At least not as much as we should have had before venturing to punish them in the way we did. The fact that nearly 10,000 casualties among our troops (according to press reports) did not deter our troops in their deep thrusts into enemy territory speaks highly of the valour of Indian troops. But wouldn't we have suffered much less in men and material had we a larger armed force than we did.

Even with a litle larger force we might have turned the 14 days war into an Israeli type 6-days war. Commenting on the war General Aurora. mentions how the dropping of one para battalion in the vicinity of Dacca was reported in the press as the dropping of a para brigade and believing this the Pakistanis hastened to surrender. What would have happened if we had actually dropped a para division a few days earlier is not difficult to imagine. We would not have then had to struggle for the bridgehead over the Bhairab river for a number of days like we did. Due to the North-South flow of the rivers, geography dictated that the quickest way to reach Dacca was along the obstacle free Mymemsingh-Dacca axis and yet we were slowest along this axis. A quicker advance by a larger force

along this axis might have had our troops knocking at the gates of Dacca much earlier than they did. Similarly on the Western front, where we fought practically one to one, an additional two divisions with the force that carried out the masterly strategic thrust into Sind would have yielded much more spectacular and decisive results. All in all, with just four extra divisions we might have crippled Pakistan's war machine and won a more decisive victory even before the UN could have started its deliberations or the 7th Fleet could have reached the Bay of Bengal.

In spite of our victory, therefore there is no room for complacency as far as defence preparedness is concerned. The last war has certainly shown that ever since the fateful year of 1962 we have moved in the right direction but is no indication to the fact that we have moved far enough.

THE NATURE OF FUTURE THREAT

CHINA

Although the Chinese have outwardly created a border dispute with us to justify their military actions the real Source of threat lies in her general policy of fomenting "world revolution" and thereby attaining world domination. Her not too secret claim over vast portions of our country including the whole of Arunachal, Assam and Bengal should be an eye-opener to those who believe, or want others to believe, that the Sino-Indian dispute is merely a border dispute which could be sorted out across conference table. It would also be unwise for us to believe that this Chinese claim is only to scare us into accepting their claim on the disputed territory along the border, as some appear to suggest. This is in fact their national objective, in keeping with their expansionist policy. However ridiculous the Chinese claim may look today, it still remains an ever explosive cause for a future war and therefore cannot be ignored. Besides, claims when they lie unchallenged for years (say a hundred years) tend to become real. A false territorial claim must, therefore, be treated with as much serious concern as an actual invasion of the country.

Our resistance to Chinese nibbling of our territory should form part of a general policy to cry a halt to territorial disintegration of our country. For this we must be far sighted to be able to see decades nay centuries ahead. Any shortsighted vision that does not see in the disputed territory anything more than a "vast expanse of waste land" which could be bartered for peace could prove disastrous. The territorial transformation that a country may undergo through voluntary surrenders or under external pressure may be so gradual as not to be discernible to the ordinary national. Who has ever bothered about the fact that INDIA today is less than half the size she was less than 40 years back; and what

are 40 years in the life of a nation? Hitler may have used his maxim that "no country's territories were created by God as a justification for committing aggression but to us it could at least serve to drive the fact home that territorial sanctity is maintained by force and not merely through the good-will of a neighbour.

India is China's real rival, and every time we rise in political stature she will try and cut us down to size. She brought us tumbling down political heights in 1962. We are now once again a source of her envy and should expect a war any moment.

PAKISTAN

Most of the Indo-Pak disputes are a result of the unnatural division of the sub-continent. On the face of it, therefore, it should not be difficult for these two countries to settle these disputes through mutual adjustment under an appropriate climate of amity. In fact, however, such a climate cannot be created due to some other factors. One such factor is the two-Nation theory on which is based the formation of Pakistan. The triumph of the two-nation theory at the time of partition was the triumph of suspicion, hatred and intolerance. This has all along been kept alive by the poor political leadership in Pakistan which has little else to offer to its people. The change from Yahya to Bhutto is not likely to make any difference either. Even the breaking up of Pakistan, though a severe jolt to the two Nation theory is not likely to minimise the threat from what remains of Pakistan. The Bengali Muslim was never a staunch supporter of the two-nation theory. Nor did he add much to the war potential of Pakistan except in the shape of earning foreign exchange which, thanks to Pakistan's friends will not prove any serious handicap in her arms build-up. The bitterness caused by the humiliating defeat inflicted on them, the American policy of balancing Pakistan against India (in the self-appointed role of peacemakers) and China's interest in tying down the maximum of our forces with Pakistan, all add up to keep the threat from Pakistan alive not only for the present but for many years to come. Kashmir is a ready excuse for them to start a war at any time.

THE COMMON FACTOR

The one common factor that emerges from the study of both the threats is their permanent nature. War with one or the other or both can break out at any time and we must be ever prepared for the worst, that is, to meet the threat from both. Preparation for war is a continuous process and time once lost can never be made up. Therefore, although we should always welcome a hand of friendship when extended to us, we must not be unnecessarily lured by any "ping pong diplomacy" and get lulled

into complacency. An attempt to fall us into such complacency may be a part of well-planned strategy of our potential enemies.

THE MAGNITUDE OF THREAT

PAKISTAN

Having successfully fought with Pakistan twice, there can hardly be any doubt regarding the magnitude of the threat from Pakistan. We only need to keep a track of their future build up and prepare accordingly. As things stand today and as was made clear by our recent war, our present armed strength is just sufficient to deal effectively with Pakistan. We probably have some infantry divisions which could be diverted against China even while we are fighting with Pakistan, but not a portion of the Air Force or the Navy could be extricated without undue detriment.

THREAT THROUGH TIBET

The Chinese are believed to be having, at present, 13 infantry divisions poised against us along the Indo-Tibetan border. However, while assessing the threat from the Chinese Army in Tibet we must also take into account their ability to reinforce this army with troops from the mainland. There are two main limitations that would restrict them in their reinforcement programme. One is their other military commitments and other is the logistical limitation to the number of troops that can be maintained in Tibet. These limitations must not, however, make us ever-optimistic in our assessment of the Chinese threat through Tibet. It is difficult to assess the military potential of a totalitarian regime which has war as its creed. Their tight security of information deprives us of the accurate data required for our appreciation and their sub-standard subsistence upsets our calculations of their logistical problems.

According to information available, out of a total of 115 infantry divisions, the Chinese have deployed 28 against Taiwan, 50 against Russia and 13 in Tibet leaving a reserve of about 24 infantry divisions. This reserve is however not uncommitted, as it includes troops that have been kept as standby for Laos and Vietnam. Even then it would not be safe to assume that they are not in a position to reinforce their army in Tibet. Besides the 300,000 security and border troops available to her to play about with, it should not be difficult for her to squeeze out a couple of divisions from other not so active theaters.

It would thus appear that the only limiting factor would be the number of troops that can be sustained in Tibet. This limitation would also have been overcome by the Chinese over the years they have occupied Tibet, by

advance stocking and through stepped up food procurement schemes. Considering all these factors it would be reasonable to assume that a threat from up to 20 infantry divisions exists from across the Indo-Tibetan border.

THREAT THROUGH BURMA

The threat from the Chinese Army does not just come from the forces in Tibet. It also poses a sizeable threat to our eastern region through Burma; this in spite of the ideal relations and co-operation that exists between us and the Burmese. The fact is that despite the gallant efforts of the small Burmese Army they have not been able to bring North Burma under their de facto control. The comparative ease with which hostile Naga gangs have moved from India to Yunnan and back through this part of Burma adequately demonstrates the vulnerability of our eastern frontier to a Chinese invasion. This threat should, therefore, be of as serious a concern to us as that through Tibet, and must be planned for with equal urgency.

Many arguments could perhaps be put forward to discount the possibility of a Chinese invasion through Burma. Such arguments were put forward to rule out the possibility of Japanese invasion through Burma before it came, and we know to what result. For the Chinese it is going to be an easier affair than it was for the Japanese. Their lines of communication will be much shorter. Let us also not feel that lack of roads through North Burma is going to be any serious limitation to the number of troops that they can deploy here. We must not forget that lack of roads has never been a serious limitation to any Chinese advance. With their sub-standard logistical requirements and extensive use of manpower for transportation purposes, they can sustain troops in a country not connected by road with their base, long enough for their peculiar road construction to catch up with the advancing troops. During their 1962 invasion they are known to have rapidly constructed roads right up to their forward troops within days of their advance. The country does, however, impose some limitations, and in this case it would be reasonable to assume that the Chinese will not be able to deploy more than three divisions for an invasion of India through Burma. They could probably bring more along the Stilwell Road but they are not likely to do so that would entail an advance through territory under more effective control of the Burmese and invasion of India would involve invasion of Burma also. Needless to say that we should be prepared to go to the aid of the Burmese in case Burma is invaded.

OUR ARMY REQUIREMENT

Due to the nature of the terrain in areas of likely operations, the infantry

is going to be the decisive arm. So our main requirement against the Chinese would be that of infantry; and as such type of terrain has a tendency to "eat up troops" we will need plenty of them. Another factor to be considered while working out our requirement of troops would be the fact that there can be no defence without offence. So even as a purely defensive measure we must have troops earmarked for offensive action. The minimum requirement of the army just to hold out against the Chinese would thus work out roughly as under :—

(a)	Requirement of troops for tactical deployment against 20 Chinese infantry divisions in Tibet	—	10 infantry divisions
(b)	Offensive action in Tibet	—	6 Infantry divisions
(c)	Requirement of troops for deployment against Chinese invasion through Burma	—	3 Infantry divisions
TOTAL			19 Infantry divisions

Considering that about five Infantry divisions from our existing army could be spared after effective matching with Pakistan there is a net requirement of about 14 additional divisions if we are to fight China and Pakistan simultaneously. We could probably save on the army requirement if we could develop greater strategic mobility, but that would prove costlier than having a larger army.

THE CHINESE AIR THREAT

Although China is believed to have the third largest air force in the world, it is unlikely that they will use their air force against us to any great extent for the following reasons :—

- (a) Due to reasons of distance they would have to base their aircraft at Tibet or areas adjoining where it may not be possible to build up sufficient fuel reserves.
- (b) The mountainous terrain of the area of likely operations precludes employment of the air force for effective tactical air support. Use of the air force being an expensive affair, the Chinese would not use it unless the returns are worth while.
- (c) Strategic bombing, which would entail bombing of civil areas, would tarnish their image as "liberators" which forms the basis for all their wars.

All this is not to say that they would not use their air power at all. They could use it in a limited way for interdiction, air reconnaissance and as a deterrent to our transport aircraft. All limitations considered it would not be difficult for them to employ upto 10 fighter bomber squadrons against us from air fields in Tibet, Yunnan and Sinkiang.

COUNTERING CHINESE AIR THREAT

Air supply for our army in Arunachal and Ladakh is practically inescapable and our air effort would mainly be directed towards providing air transport support to the army. Besides the normal supply mission there is also a special requirement of the army operating in jungles and mountains, for close air transport support by helicopters for increasing its tactical mobility. For carrying out these tasks and for preventing the Chinese aircraft from carrying out their tactical missions, our Air Force would be required to maintain a favourable air situation over the areas of operation. The requirement of the air force against the Chinese would, therefore, work out roughly as under :—

(a)	for providing air transport support	—	15 transport squadrons
(b)	for providing close air transport support	—	8 helicopter squadrons
(c)	for maintaining favourable air situation	—	15 FB squadrons

As there would not be much requirement of transport squadrons against Pakistan we might be able to manage with our present strength against the Chinese. We would, however, definitely need to raise an additional force of FBs and helicopters to meet the combined threat from China and Pakistan.

THE NAVAL THREAT

The Naval threat from China in the event of a Sino-Indian war is seldom realised although the threat is very real. The reason for this is that we have not yet been woken up by any rude shock on this front. Needless to say that we cannot afford to wait for such a shock in order to realise the gravity of the threat. The sea routes are our life lines and are an obvious target for our enemies. If the Chinese did not attack these targets in 1962 it was because there was no need for them to do so. The victory on land itself had been quick and complete. In a future war, however, a quick walk-over for them on land will not be possible and, faced with stiff opposition, they will take recourse to hitting us where it will hurt most—that is, our

unprotected sea routes. By chocking our aid and trade the Chinese could bring about the collapse of our army without fighting it. There is no reason why they should not do it.

The total Chinese fleet comprises of 4 destroyers, 12 frigates, 150 torpedo boats and 33 submarines. It is of interest to note that the number of submarines is quite out of proportion to the number of destroyers and frigates. These can pose a very serious threat to our shipping in the Indian Ocean. Who is there to check them'. With the USA's New China policy, and the egregiously hostile posture of the 7th fleet during the 14-days war, even if one does feel that the US will join China against us, one cannot expect the 7th fleet to contain the Chinese Navy for our sake. In any case for how long and to what extent can a country expect to be protected by another even if it be by a friendly Russia?

Besides the existing naval threat from China and Pakistan we should also not forget how hostile Indonesia can be towards us with a pro-Peking Government in power. Although there is no reason to doubt Indonesia at present, we must cater for the contingency of a hostile Indonesia while considering Naval threat from China and Pakistan. It does not take time for situations to change but it certainly takes time for a country to build up its Navy.

NAVAL REQUIREMENT

The threat from the Chinese Navy comes mainly from its submarines. Our navy therefore needs primarily to strengthen its anti-submarine base. However, the Indian Navy must also acquire a much larger fleet of submarines, not only to protect its own lines of communication, but also to threaten those of China and force her on to the defensive. With such a long coast line India also needs a stronger coastal defence.

NUCLEAR THREAT

Due to the disastrous consequences of starting a nuclear war, it could be reasoned out that no country would want to start a nuclear war with another that possesses retaliatory power. But what happens when a non-nuclear power like India is up against a nuclear power like China. Initially when China opted to become a nuclear power it was probably to attain immunity from a nuclear attack from the US and the USSR. Having now attained nuclear power, and knowing that no country will ever risk a nuclear attack on itself for the sake of another, would she now be tempted to use that power against India, who has no retaliatory power of its own? Apparently there is nothing to stop her from doing so but it is most unlikely that she would resort to such an action in the near future. One

reason for this is that the bomb will not be able to distinguish the "bourgeois" and the "Reactionary" from the "proletariat," and its use will turn the masses against them, thereby jeopardising their political aims. As a matter of fact there is no need for them to use bomb as long as their aims are being fulfilled through other means".

This is not to say that we should not turn nuclear. There may not be an immediate necessity for doing so, but in the long run we will have to. We must grow militarily over the years as a natural course. We have constantly been pushed into becoming a military power in the past and will continue to be pushed till such time that we attain our rightful place. By virtue of our size, population and the position on the globe we are destined to pose a challenge to the Chinese military supremacy and a confrontation with them is inevitable. A stage may come when confrontation with a powerful India may lead China to a state of desperation and she may be tempted to use her nuclear power. We cannot be found lacking in this respect then. Nor will it be possible for us to take the bomb and its delivery system out of the hat. Our growth in the nuclear field must, therefore, keep pace with our growth in other military fields as a normal course, even if there is no immediate nuclear threat to the country. We also need nuclear power to acquire political power. When Mao Tse Tung said that political power grows out of the barrel of the gun, in those days there were only guns. Now it grows out of the atom bomb. No wonder that while the USA still hold us in contempt, she is going head over heels to please China. We may not want political power to dominate others, but should want it to prevent political blackmail by others and for looking after our interests.

WHAT MAKES US FALTER

Tracing back our history of defence preparedness we find that rather than going in for it as dictated by the prevalent threat we have been successively pushed into it by force of circumstances. We have waited at the end of each push to be pushed further till we reached where we are. Comparing the nature and the magnitude of the threat to the country with our present armed strength, it is evident that we have still miles to go before reaching our defence objectives. Yet if our declaration that our present armed strength is to be our optimum, is any indication, it would appear that once again we are standing at the threshold waiting to be pushed further. There is obviously marked reluctance on our part as far as our defence preparations are concerned; a faltering against which Sardar Patel warned us in his prophetic letter written as way back as 1951. In that letter he had pleaded for a clear cut policy on defence and warned that "any faltering or lack of decisiveness in formulating our objective is bound to weaken us and increase the threats that are so evident". Since that day we have

no doubt moved a long way towards our defence objective, but certainly not far enough. We even appear to have shifted our objective nearer to suit the distance we have been able to cover. The question naturally arises as to what is it that makes us falter.

LACK OF MILITARY UNDERSTANDING

Today one does not have to possess Sardar Patel's vision and foresight to be able to gauge the magnitude and gravity of the threat to the security of the country. Since the days of Sardar Patel history has taught us (sometimes the hard way) many lessons. Yet many in our country, including a section of our intelligentsia, still display lack of military understanding. Some of them have even gone to the ridiculous extent of advocating a cut in the defence budget. The fact is that we are not a military-minded nation and find it difficult to grasp the problems of national defence. Having seen and fought wars only as a slave nation for 200 years purely for furthering British imperialistic designs we have developed hatred for wars, and our idealism still does not allow us to accept the inevitability of wars. Our interest in the armed forces thus tends to flag as soon as one war is over.

Our lack of understanding of military matters is perhaps perpetuated by the fact that ours is a country where soldiering and politics are completely divorced from each other. There being no conscription the soldier and the politician seldom change positions. Till such time that the politician himself tastes soldiering, the answer lies in his allowing the soldier a greater say in defence matters than is being done at present. Although since the 1962 war the soldier's say in defence matters has increased many fold, his voice can still get drowned while the highest rank in the armed forces stands so low in the order of precedence among the Government bureaucracy. Besides, modern wars as we know are total wars wherein the entire national effort and resources need to be geared. The military expert must, therefore, have a say in the grand strategy for defence. This would include a defence oriented economy and foreign policy.

THE HARD FACTS

Preparation for war throws a great burden on the nation and it requires a strong will to be able to bear it without cracking up. Lack of mental robustness may cause the nation to slide into a state of make believe and wishful thinking. To be able to put up resistance against any such tendencies we must understand certain hard facts and then bear them in mind while preparing for war. Some of these hard facts to which we must not close our eyes are :—

- (a) that wars cannot be avoided, much less by remaining militarily weak;
- (b) that our fight is a fight for existence and whereas the mode of fighting may be changed to suit our resources, we cannot give up fighting for the lack of them;
- (c) that military preparation is a continuous process and its pitch cannot be allowed to fluctuate with the changing political situation;
- (d) that while hoping for the best, we will have to be prepared for for the worst situation of having to fight China and Pakistan both at the same time;
- (e) that our general defensive policy must not prevent us from being aggressive even when it comes to fighting with China;
- (f) and that treaties and defence pacts are but poor substitutes to possessing independent armed strength—may be a good umbrella but a bad roof.

THE BOGEY OF DEFENCE BURDEN

The greatest single factor that makes us falter in our defence efforts today is the general impression that the country is carrying far too much of defence burden, and that any defence budget larger than the present would be much too much for us to bear. This impression however appears to be more the result of our inherent adherence for wars, than the reality of things. Even when the budget was at its lowest before 1962 it was considered unbearable, and yet forced by circumstances we are bearing a defence burden today which is three times what it was then.

The burden of defence being felt by the nation today is obviously more psychological than real. What other reason could there be when, judging from all known standards, the country is carrying little defence burden. With a defence budget forming about 3.5% of our Gross National Product we rank among the 19 countries of the world with lowest percentage of defence expenditure (These 19 countries do not incidentally include our potential enemies). Worked out as a percentage of per capita income our defence budget stands second lowest in the world (1969 figures). A budget of Rs. 1600 crores which, according to rough calculations, would sufficiently meet our requirement in defence would form only 4.5% of our GNP; a percentage that Pakistan was spending on defence. The impression that we are too poor and cannot afford to spend any more on defence is

thereof nothing more than a mere bogey. It only goes to prove the truth of an old Chinese adage that "poverty is a state of mind".

In any case expenditure on defence, (which amounts to expenditure on preservation of freedom), should start pinching us only after we have plugged other drains on the national economy; a burden which should pinch us much more. We lose hundreds of crores every year through wastage, extravagance and inefficiency and few people seem to be worrying about it. Just to get some idea as to the magnitude of losses through our inefficiency it may be recalled that during the financial year 1969-70 the net loss in 28 public enterprises alone has been estimated at Rs. 75 crores. The annual loss in foreign exchange frauds totals upto Rs. 240 crores in a year (findings of the Study Team). These figures by themselves are more than 25% of the total defence budget. There are many more such losses. Losses due to tax evasion must be immense, considering the fact that only 27 lakhs people out of 54 crores in India pay income tax. With business flourishing these days even at the pettiest level it is difficult to believe that only this number is in a position to pay income-tax. This is not to talk of the known tax evaders from whom the Government is yet to recover hundreds of crores in the form of arrears. Even rats in India are believed to be eating away Rs. 1,800 crores worth of grains every year, which is more than $1\frac{1}{2}$ times our total defence budget. It of course goes without saying that a nation which is struggling for existence needs to practice austerity to a much greater degree than we are doing at present. Our socialistic pattern of society has yet to stamp out pomp, show and pageantry that we inherited from the British.

If value of all waste and losses due to our inefficiency were to be put together our entire defence budget would form a mere fraction of this amount. Then why do we not wage a war against this waste and inefficiency to ensure that we have sufficient funds for defence?

CONCLUSION

The decisive victory that we have won against Pakistan has instilled in us a new confidence. It has also shown that a nation is respected in this world only for its military might. In General Manekshaw's words we have made the world sit up and take notice.

There is, however, no room for complacency. There still exists a threat to the security of the country of magnitude much more than what we have faced, that is, a combined attack from China and Pakistan. Pakistan, bitter with the humiliating defeat suffered at our hands, is bound to seek revenge. We are also once again a source of Chinese

envy and they would certainly try to cut us down to size. It is not difficult to find an excuse for waging a war and so must expect another war any moment.

Our present armed strength falls terribly short of meeting a combined threat from China and Pakistan. Yet we do not appear to be doing anything about it. Our declarations that we have reached the optimum as far as our armed strength is concerned, betrays a faltering in our defence preparation, against which Sardar Patel warned us in 1951. We probably are relying too much on the Indo-Soviet Treaty to cater for our defence. This is dangerous. Not because there is any doubt regarding the Soviet friendship but because it might prevent us from becoming self-reliant in defence. There is no substitute to possessing independent armed strength. The period of the treaty should therefore, only be used in building up that strength.

The greatest single factor that makes us falter in our defence efforts is the economic burden that it imposes on the nation. We must understand that expenditure on defence is expenditure for our existence, and no expenditure on this account can be considered too great. We must somehow find resources to meet our defence requirements. Where there is a will there is always a way.

THE KISSINGER PHILOSOPHY

COLONEL R. D. PALSOKAR, MC (RETD)

EVER since Dr. Henry Kissinger was appointed adviser to President Nixon on national security and foreign policy, there has been a distinct change in the U.S. policy. We, in India, have felt it more than anyone else. During the fourteen-day war with Pakistan in December last year, President Nixon ordered the move of the Seventh Fleet to the Indian waters. The Admiral of the Fleet must have been given some specific task which can only be guessed. Whatever it was, it was certainly not to foster fellow-feeling and goodwill between the two great democracies of the world. The Fleet had the ability to land U.S. marines on Indian soil, fight India's armed forces with conventional and nuclear weapons, and bombard Indian cities with conventional or nuclear tipped bombs or missiles. The U.S. administration did not make any attempt to conceal either the movement or the destructive capabilities of the Seventh Fleet. If anything, special news items were released giving the details of the men and planes on board the ships, the characteristics of the planes, the number and calibre of the ships, guns and so on. Care was also taken to circulate the reports that the people of the U.S. were not behind their administration; the latter was acting entirely on its own responsibility much against the wishes of the people! Such reports help if there arises the need to change policy.

The U.S. administration is now reconciled to the birth of Bangladesh. Why was it so upset when all that India was trying to do was to check a military dictator who Bhutto himself dubbed as a drunkard and who had given free hand to his defence services to commit atrocities which would make even Hitler turn in his grave? The American policy makers were not moved by the plight of 9.8 million refugees and the genocide of 75 million Bengali Muslims. They stood by their quaint desire to equate Pakistan with India and maintain the old power balance in Asia. When they realised that Indian and Bangladesh armed forces were about to succeed in their mission of liberating Bangladesh, they went to the extent of directly threatening India's security despite the fact that India is another democracy. One knows who is openly hostile; but it takes a crisis to bring to surface the latent animus.

The war in South Viet Nam is not going according to U.S. calculations.

At the time of writing, the North Viet Nameese forces are barely 50 miles from Saigon. There is every possibility of the Americans going through a 'Dunkirk' in South Viet Nam. Will the Presidential Adviser now order the use of tactical nuclear weapons in this war to save American prestige, men and material? There are already reports current that contingency plans have been made for this purpose. Plans are normally prepared for all possible courses. The question now uppermost is whether President Nixon will order resort to nuclear weapons to save South Viet Nam or withdraw his forces from that war-torn nation.

To seek answers to these questions we should turn to Dr. Kissinger. He is a scholar who has now become a statesman. He was the study director of a panel of eminent scholars, scientists, statesmen, defence chiefs, administrators and industrialists who got together to discuss and explore all the possible factors involved in the making and implementing of American foreign policy in the nuclear age. At the end of the deliberations, Dr. Kissinger wrote a book titled 'Nuclear Weapons and Foreign Policy'. This book gives a good insight in the Presidential adviser's mind and offers some explanation to U.S. actions in Asia with particular reference to the Indian sub-continent.

According to Kissinger, diplomacy must have access to use of force even in this nuclear age so that it retains its efficacy. The inability to use force may perpetuate disputes and will not lead to resolution of tensions. If force cannot be used the resultant peace may be such as would contribute to the demoralization of the international order and diplomacy which is considered the alternative to war would emerge as its complement. Past international settlements were not brought about by reasonableness and negotiating skill but the willingness to employ force to vindicate the sovereign state's interpretation of justice or to defend what it considered as its vital interests.

The motive force behind international settlements has always been a combination of the belief in the advantages of harmony and the fear of proving obdurate. The present period is revolutionary in that priority is given to change over the requirements of harmony. New sovereign states have taken their place in the international community and many of these continue to inject into their policies the revolutionary fervour that gained them independence. These states are exploited by the Sino-Soviet bloc which is organised to exploit all hopes and dissatisfactions for its own ends. Due to advances in modern technology any diplomatic or military move immediately involves world-wide consequences. Thus statesmanship is faced with the challenge of maintaining harmony but the willingness to utilize the traditional pressures is constantly diminishing. If the recourse to

force has become impossible, the restraints of the international order may disappear as well.

The enormity of modern weapons makes the very thought of war repugnant. But risks have to be taken to keep the Soviets under check. Thus there arises a need to translate power into policy by formulating a strategic doctrine which must define what objectives are worth contending for and determine the degree of force appropriate for achieving them. A nation such as the U.S. which is protected by large oceans and has great material superiority can afford to wait till its territory is attacked before it engages in war. A nation which does not have this margin of safety cannot permit a significant change in the balance of forces, for, to the degree that the equilibrium is disturbed, it surrenders control over its security. The outcome of a war is likely to be decided against it by a single battle. The power and speed of modern weapons has ended the U.S. traditional invulnerability and the polarization of power in the world has reduced their traditional margin of safety.

The balance of power can be shifted now solely through developments within the territory of another sovereign state by the growth of unclear technology. Acquisition of territory need not now be the cause of upsetting the balance.

Since the consequences of using force are fearsome, many Soviet acts of intransigence have been pathetically explained away as caused by misunderstanding or malevolence caused by an individual. What was lacking was a doctrine which could be translated into a strategy for achieving positive goals.

An all-out war has ceased to be a meaningful instrument of policy. It cannot be used even against a minor power for fear of the reaction of world opinion and also because its intricate strategy is not appropriate to wars of limited objectives. It cannot be used against a major power for anything except negative ends: to prevent the opponent's victory. Yet the U.S. has to maintain sufficient forces to fight an all-out war. The horrendous nature of the war makes responsible political leaders reluctant to employ force. In every crisis, arguments are put forward for a policy of minimum risk not only because of the dangers of all-out war but also to reserve the all-out capability to meet the less ambiguous challenge. If the policy makers refuse to run any risk, there is the likelihood of being defeated without war. Thus, there is a definite requirement for strategy providing less absolute alternatives to the policy makers so that diplomacy can be backed up by force which is less catastrophic than that may lead to all-out thermonuclear war.

If the Soviet leaders get the impression that the U.S. is not likely to unleash the all-out war, they may absorb that peripheral areas of Eurasia by means short of all-out war and confront the U.S. with the choice of yielding or facing the destruction of American cities. This itself may lead to all-out war which the U.S. seeks to prevent.

A limited war is fought for specific political objectives which include affecting the opponent's will to fight and not to crush it. The goals are specific and do not call for complete annihilation. This type of war does not see the end of policy; winning it does not become national policy by itself. It does not seek to end national survival. Old wars did not aim to change social and political orders and the international order remained basically unchanged. The U.S.S.R. does not accept either the framework of the international order or the domestic structure of the non-Soviet states. The strategy should be such that it should devise a spectrum of capabilities with which to resist Soviet challenges. These capabilities should enable the U.S. to confront the Russians and the Chinese with contingencies from which they can extricate themselves only by all-out war, while deterring them from this step by a superior retaliatory capacity. Limited war gives such capability; capability for massive retaliation provides the sanction against expanding the war.

The purpose of limited war is to inflict losses or to pose risks for the enemy out of proportion to the objectives under dispute. One way of increasing the enemy's will to settle is to deprive him of something he can regain only by making peace. There is also the need to harmonize political and military objectives. The two main reasons for the U.S. to develop a strategy of limited war are that it is the only means for preventing the Soviet bloc, at an acceptable cost, from over-running the peripheral areas of Eurasia; and intermediate applications of power offer the best chance to bring about strategic changes favourable to the U.S. So long as Chinese might presses upon free Asia, the uncommitted powers will seek safety in neutralism. The U.S. has not only to stem the Soviet pressures but also to reduce the Soviet sphere and demonstrate the limitations of Soviet power and skills. Whilst the threat of all-out war may bring China and Russia nearer, a limited application of force may be useful in accentuating the differences between the two communist powers and exploit them to best advantage. Limited actions may bring about local reversals which may set off chain reactions which may magnify the tensions within the Soviet bloc.

For employment in a limited war in any part of the globe, the army is handicapped by its dependence on air transport which can carry only limited men, equipment and armament. The Air Force will not be able to fight the war on its own and may not be able to draw

the line between limited war and an all-out war. The Navy task forces, built around fast aircraft carriers, are ideal supporting units for waging a limited war.

A limited war should not be allowed to escalate into an all-out conflagration. It can be done effectively by making suitable diplomatic overtures which make clear that national survival is not at stake and that a settlement is possible on reasonable terms. The consequences of limited victory or a limited defeat or a stalemate must seem preferable to the consequences of an all-out war.

A policy of limited war presupposes three conditions: the ability to generate pressures other than the threat of all-out war; the ability to create a climate in which survival is not thought to be at stake in each issue; and the ability to keep control of public opinion in case a disagreement arises over whether national survival is at stake. Diplomacy should convey to the Soviet bloc what the U.S. means by limited war; too much obscurity is dangerous. The opponent should be given the information he requires to make the correct decision.

A limited war fought with conventional weapons is always likely to escalate into a limited nuclear war. Since it is not possible to enforce limits on the size of weapons, each side will seek to anticipate its opponent by using the largest practicable weapon thus leading to all-out war. Though the argument appears logical and unassailable, it is not so. For example, if the outcome of the action means the annihilation of a few divisions in south Asia, it will not be worth sacrificing the security of the entire nation by resorting to all-out war. The tactics of limited nuclear war demand small, highly mobile, self-contained units, relying largely on air transport even within the combat zone. The targets would not include ground features of importance as in conventional war. The forces would operate from nuclear hedgehogs which would not permit to be destroyed unless superior forces are concentrated against them and such concentrations would be subject to nuclear punishment. The tactics would be somewhat similar to the navy's which also acts as a political and military spearhead for disorganising enemy rear. The fear of self-destruction will act as a serious "builtin" restriction to prevent the use of high-yield nuclear weapons for sheer wanton destruction.

A limited nuclear war is a possible course against powers with vast resources of manpower which are difficult to overcome with conventional technology. The threat of embarking on an all-out war is not credible as the will to start it will not be there. Limited nuclear war can, however, be a credible threat. For it to be possible, diplomacy must succeed in

giving an indication of the intentions to the other side so that the war does not end in an Armageddon.

Two American strategic problems are interesting to note. These are : Firstly, it is the task of American diplomacy to make clear that they do not aim for unconditional surrender and to create a framework within which the question of national survival is not involved in every issue; but equally they must leave no doubt about their determination to achieve intermediary objectives and to resist by force any Soviet military move. Secondly, since diplomacy which is not related to a plausible employment of force is sterile, it must be the task of American military policy to develop a doctrine and a capability for the graduated employment of force.

This is a challenge to diplomacy which is effective when called upon to settle disputes by negotiation subject to the proviso that such disagreements do not concern issues considered vital by the contenders. No nation can negotiate for its survival in the name of achieving harmony. Thus relations come to be based on force or the threat of force. Extreme force cannot be used and what the diplomats can do is to keep open the channels for information. They can enable each side to convey its intentions to the other.

If force has to be used, it should be limited, conventional or nuclear, and the aim of war cannot be military victory, strictly speaking, but the attainment of certain specific political conditions which are fully understood by the opponent. Limited war cannot be conceived as a small all-out war with a series of uninterrupted blows prepared in secrecy until the opponent's will is broken. On the contrary, it is important to develop a concept of military operations conducted in phases which permit an assessment of the risks and possibilities for settlement at each stage before recourse is had to the next phase of operations. Since the aim is to affect the will of the enemy and not to destroy him, war can be limited only by presenting the enemy with an unfavourable calculus of risks. A strategic concept for limited war should, therefore, seek to devise a measured pace in the sequence of military operations, lest the speed of modern weapons outstrip the capacity of the human mind to comprehend the significance of unfolding events. Every campaign should be conceived in a series of self-contained phases, each of which implies a political objective and with a sufficient interval between them to permit the application of political and psychological pressures. Direct diplomatic contact is necessary to ensure that both sides possess the correct information about the consequences of expanding a war and to be able to present formulas for a political settlement.

The above discussion does not have any time for the weak and the developing who do not have access to force to back up their legitimate aspirations of improving their standard of living. Dr. Kissinger loathes change which he considers as revolutionary and hence something which must be resisted. It does not fit into the old established order. He does not believe in principles except those which can be backed up by armed might and is obsessed with the fear of expansion of the Sino-Soviet sphere of influence. To him, U.S. might is right and his country must now take upon itself the task of preserving the old order so that balance of power is not changed. There appeared the possibility of upsetting the old equilibrium on the Indian subcontinent during the latter half of 1971 and that was why the learned professor tried to maintain *status quo ante*. To enable him to do so, he was prepared to use force. That is how he advised the move of the Seventh Fleet to the Indian waters. Unfortunately, he was too late. By then Pakistan forces in the east had surrendered and Bangladesh had become a reality. He tried to restrict Soviet influence in South Asia; instead he helped seriously reduce U.S. influence in this region.

Dr. Kissinger believes that a limited war fought with conventional or even nuclear weapons can be kept limited if only diplomacy forewarns the opponent that national survival is not at stake and that political objectives are strictly limited. Based on this belief, the U.S. President must have warned our Prime Minister that the Seventh Fleet was on its way to Indian waters. Had the fleet reached the Bay of Bengal in time to save the Pakistan Army, it would certainly have fought India's armed forces in "measured paces", each being a self-contained phase aiming at certain political objectives.

This also answers the question whether the U.S. would resort to nuclear weapons in South Viet Nam in the present contingency. The answer is in the affirmative. The U.S. President will first warn Moscow and Hanoi that he intends to authorise the use of nuclear weapons and then use them. Will he thereby save U.S. prestige? The answer is obvious to the Asians. The Americans are seeking it.

EDUCATING OFFICERS OF THE THREE SERVICES FOR HIGHER COMMAND

LIEUT-COLONEL PAUL VARMA, PSC

INTRODUCTION

In the normal course of events one regular officer out of every four can expect to attain senior rank. In this context 'senior rank' has been taken to mean Colonel, Group Captain, Naval Captain or higher. In peace and in war these senior ranking officers will make command and policy decisions that will affect the defence of India. In the event of war, no price is too high to pay for the strategic and tactical abilities of men like Monash, Rommel, Yamamoto or Timoshenko.

The ability to satisfy the demanding positions of higher command cannot be acquired suddenly; this is a fundamental reason for maintaining regular forces in peacetime. Training for higher command begins with character and leadership guidance given to officer cadets. This training proceeds through successive promotion examinations to its culmination in senior courses at the Defence Services Staff College and the National Defence College. In relation to fitness for higher command, the most important examination subjects are Military History and Current Affairs.

This paper examines the concepts underlying the study of Military History and Current Affairs by regular and part-time officers of the three Services. The importance of these subjects is considered in relation to officer education as a whole.

Although written against an Army background, the spirit of this article is that all three Services should study the higher direction and conduct of war according to a

common, integrated syllabus that includes provision for specialised single-Service study wherever appropriate.

REVIEW OF THE EXISTING SITUATION

MILITARY HISTORY

This subject is studied in elementary terms at the NDA. It does not command an officer's attention until about ten years later when it is mandatory for his Captain to Major and Staff College Entrance examinations. Even for the latter examination, Military History tends to be confined to the narrower aspects of this broad subject. It emphasises battles fought with equipment that is now obsolete; ipso facto, the organizations and tactics employed are generally outmoded. Presentday and future man management and morale problems are also likely to be essentially different from those in the past due to the rate of social change in contemporary, industrial society. Military History, as all too commonly understood, rarely takes into account the applicability of today's technology to tomorrow's pattern of war.

CURRENT AFFAIRS

Training in Current Affairs forms a useful part of current NDA courses. This subject is also examinable at later stages in a young officers career. There are at least three intrinsic shortcomings in the present concept of Current Affairs training :

- (a) Instruction is confined to those transient topics that chance to be topical during the year of study.
- (b) The depth and balance of knowledge acquired on a particular Current Affairs topic is unlikely to be profound or of permanent retention value, in the absence of a more thoroughgoing study. For example : a balanced appreciation of Japan in post-war world is unlikely to be gained without studying the history of that country from 1868, 1853 or earlier.
- (c) "A little knowledge is a dangerous thing. Drink deep or drink not of the Pierian spring."

At present students of Current Affairs tend to acquire patchy, contemporary knowledge that is of little use in later years. In theory, the study of Current Affairs in isolation could set up unbalanced opinions.

The central problem to be resolved in revising both Military History

LIMITATIONS OF PRESENT STUDY CONCEPTS

and Current Affairs curricula is common to all historical studies. The situation is summarised with elegance and precision in a small pamphlet written by Mr Patrick Gardiner, Fellow of Magdalen College, Oxford.¹ A copy of this slim pamphlet (weight 170 grammes) deserves to be included in every young officer's knapsack. It may well carry him further than the proverbial and heavier field marshal's baton; Mr Gardiner points out that any worthwhile historical situation is inevitably characterised by several events of irreducible complexity that describe the actions, statements and thought of human beings at a particular time under unique circumstances. Historical situations, being past events, cannot be known in the same manner in which contemporary happenings may be known.

In far less elegant terms, the problem of the serious student of defence is to relate the past to the foreseeable future, in the present! This requires a comprehensive and balanced study of all relevant past events followed by an interpretation of possible applications in the future. This can best be achieved by using more historical methodology than has been done in the past. It may be supplemented by employing applications of the Games theorists, E.D.P. and others sophisticated tools modern management and technological forecasting (TF). It seems unlikely that any of these mechanical devices will supplant human judgement in the conduct of war—but they merit consideration as useful tools.

The limitations of Military History as an isolated study discipline were seen clearly from the very outset. The first chair in Military History in the United Kingdom was established at Trinity College, Cambridge in 1913 when the historian J.W. Fortescue was appointed first lecturer in Military History. He records that when this honour was conferred upon him:

"I was obliged for the first time to ask myself seriously, What is military history? I confess that I have found it very difficult to furnish a satisfactory answer."²

If the leading academic of his day experienced difficulty over defining the role and purpose of military history study, it should not be surprising that the far more pragmatic demands of officer training require a modified approach.

1. Gardiner, P., *The Nature of Historical Explanation*, Oxford University Press, London, 1968
2. Fortescue, J. W., *Military History*, Cambridge University Press, London, 1913, page 1.
February, 1972.

SUGGESTED MODIFICATIONS

The main constituents of officer education for higher command are shown diagrammatically in Chart 1. By comparing this with our present system of examinations, it will be seen that we do not necessarily impart a balanced standard of military knowledge to officers prior to their entrance into the Defence Services Staff College, etc. Mobilization courses, etc. A similar argument can be put forward regarding the overseas top level courses to which we send senior officers to represent India from time to time. The validity of this criticism is apparent to any observer at a syndicate discussion in any of the training establishments mentioned.

An upgrading of existing officer education programmes is necessary to achieve the objectives implicit in Chart 1. The manner by which this might be achieved is examined below.

REVISION OF EXISTING CURRICULA

(a) Modern Government And International Relations

- i. In substitution of Current Affairs it is recommended that a new subject to be known as Modern Government should be introduced. This could well be run along the lines of the Modern Government and Public Administration courses of any of our universities or technical colleges.
- ii. At the Captain to Major and staff college entrance examination level, the study of transitory current affairs should be replaced by more lasting studies of the type undertaken in the Asian study departments of universities plus the United Nations as a potential world peacekeeping agency.

(b) Defence Studies

This is suggested as a suitable substitute for Military History; an alternative name would be 'War Studies'. The aim could be achieved by broadening the scope of military history study. At present Military History is the 'odd man out' in that it is studied at the NDA and then lapses until taken up for the Captain to Major/Staff College entrance examinations. My own view is that it is preferable to re-name the subject 'Defence Studies' because I envisage a major policy decision whereby all three Services agree to a common curriculum, orientated towards foreseeable, technology, Defence Science, the joint conduct of operations and the concept of the nation-at-war.

SUPPLEMENTARY RECOMMENDATIONS

As a corollary to the above main recommendations, the following matters ought to be reviewed :

(a) Structured Correspondence Courses

- (i) To cope with our geographical dispersion problem a series of carefully structured correspondence courses should be designed. These courses should make full use of such techniques as recorded tapes, carrel sessions, video tapes, films, written assignments and monthly or quarterly coaching meetings.
- (ii) As the courses under consideration are partly for the self advancement of the officers concerned, a nominal fee should be levied. This would serve to motivate attendance and completion of assignments.

(b) Expansion of Training Team Coverage

The changed emphasis implied in the concepts outlined above would entail additional DMT Training Teams and an improved army education corps capability.

(c) Phasing-in of New Subjects/Curricula

DMT Training Teams and the army education corps adequate notice. This period of advance warning would enable properly balanced courses to be fully researched, planned and systematically implemented. Adequate references could be printed in advance and a great deal of erroneous or outdated instructional material would be eliminated. The implication of this recommendation is that the measures recommended in this study, if approved and notified in orders in December 1972, should become effective for examinations to be held after June or December 1975.

(d) Constitution Of A Working Party

The basic recommendations made in this study are fairly profound and require more detailed examination and evaluation than is practical in a short paper of this nature. A working party should be set up to obtain the detailed views of all three Services, government departments, the United Service Institution, university and technical college representatives, etc. This working party should recommend a revised programme of officer education for future higher command.

CHART 1

OFFICER EDUCATION FOR HIGHER COMMAND

THE REQUIREMENT

Character (Moral courage) and Military Knowledge.

PLUS

Insight Into Higher Defence Organisation in Relation to The Processes and Machinery of Government in own, Allied and Potential Enemy Countries (Includes national morale and industrial mobilization)

WITH

Understanding of the Historical Origins of Contemporary World Problems Affecting Peace and war Situations.

AND

Sufficient Conversance with Technological Forecasting In Relation to Major Military Armament and Procurement Policies.

MEANS OF MEETING THE REQUIREMENT

Existing Officer Cadet and Officer Training Programmes

Not covered adequately in existing officer training concepts.

Requirement to be met through study of Modern Government along the lines suggested in the main body of the paper.

Inadequately covered in existing officer training programmes.

Requirement to be met through the introduction of a new study subject, International Relations. See main paper.

Method of implementation requires detailed study. The role of Scientific Advisers to the Department of Defence and Service ministries and the overall national programme of scientific and industrial research to be included.

LONDON CANTONMENT DEAR

BRIGADIER NB GRANT

THE daughter of an Indian military attache in UK, while holidaying in Bharat, was asked by a friend where she was staying in England. She replied "in London, of course". When asked which part of London, she nonchalantly replied "London Cantonment, dear". After having lived in cantonments all her life, and with her dad's last posting being in Poonah one cannot blame her if she assumed, that in all parts of the world, the military only stay in cantonments.

Before Independence, cantonments were always looked upon as the bastions of British rule in India. They were an entity by themselves, and remained separate from the mainstream of our national aspirations and culture. Although we have since become an independent sovereign republic, with a constitution of our own, the old laws governing cantonments still remain, although by now they have become completely out of tune with the present context of our democratic way of life. The aftermath of the Chinese and Pakistan wars have projected the whole nature of cantonments to a sharp focus, and a lot of criticisms have been made against their very concept.

The aim of this paper is to trace the evolution of the cantonment in general, and discuss its future role in our country, in particular. For the sake of better understanding, reference has been made to similar establishments existing in some other countries like the USA, where the concept of cantonments, as we understand it, first took root.

ITS DEFINITION

Although the word "cantonment" has been more commonly associated with military stations in India, it has been frequently used in the USA, where a military cantonment is synonymous with the term military post, and means a place where troops are assembled; where military stores, animate or inanimate, are kept or distributed; where military duty is performed or military protection afforded; where something, in short, more or less closely connected with arms or war is kept or is to be done. On the other hand as far as India is concerned, the British Law Minister, Mr Scolde, speaking on the 1889 Cantonment Act defined it, to quote,

"Although there is no definition of the word 'cantonment' in the Bill, it has a well understood popular meaning. The term has for more than a century been applied to military stations in India, and these stations have, almost from their first establishment, been subject to special regulations".

A cantonment literally means the temporary quarters of troops when taking part in manoeuvres. However ever since the British domination of the country, it has been applied to permanent military stations in India in which troops are regularly quartered, with the result that the English dictionary has itself recognised, that in India the word "cantonment" means a permanent military station.

ITS EVOLUTION

During the Red Indian wars, the US Army was spread out in penny packets in several military camps, also known as posts, which at one time numbered over 500. For obvious reason this was not a satisfactory arrangement, and the then Army Secretary, Mr Taft, proposed that the posts of the army should be so arranged as to operate tactically instead of administratively, and so as to cooperate with the National Guard. In this connection he pointed out that the small post was but an accidental result of the Indian troubles, and it prevented training, and should be abolished. Effort was made to station troops into a tactical organisation of two or three brigades, with the proper attached troops.

However these proposals could not be carried out without legislative help which was not forthcoming, as the US citizen was always suspicious of a standing army and concentrated military establishments. Even as late as 1911, the average US post or garrison comprised less than a battalion. Since the 1880s, every Secretary of War of even moderate competence had attempted to do something about the "hitching post" forts. However in the face of Congressional fondness for outposts that put money into the pockets of various constituents, very little was established till the outbreak of World War I. It was during that period, that a plan was drawn up for establishing 32 cantonments, 16 for the National Army and 16 for the National Guard. The overall plan called for training one division at a time at each encampment.

As far as our country is concerned, with the British came to India, they also established military posts, although for very different reasons, in the neighbourhood of the North-West frontier, and of the capitals of important native states. Under Lord Kitchner's redistribution plan of the Indian army in 1903 he established 19 cantonments at Rawalpindi, Quetta, Peshawar, Kohat, Bannu, Naushera, Sialkot, Mian Mir, Ambala, Mathura,

Ferozepur, Meerut, Lucknow, Mhow, Jabalpur, Bolarum, Poona, Secunderabad and Bangalore.

ITS ADMINISTRATION

The fundamental difference between the location and the administration of cantonments in the two countries was, that whereas in the USA, these were located strictly from the point of view of training and away from big towns, in our case, cantonments were invariably located adjacent to big cities and garrisoned for frontier defence and internal security role. Thus in the USA, and so called cantonments were really training establishments, located within the civil administrative jurisdiction of the neighbouring small towns distributed all over the Continent. In India on the other hand, cantonments were miniature, or even major, townships by themselves and were administered under special laws enacted for the purpose. Whereas the US posts or installations catered for special facilities to Servicemen such as, medical care, shopping (PX system), education, religious institutions and recreation, all of which are quite common to military establishments anywhere, in our country, these catered for subjugating the civilian native to military discipline. To quote the language of Bengal Regulation XX of 1810,

“From the great number of native retainers and followers attached to military establishments in India, and the importance of a prompt and orderly discharge of their duties to the welfare of the troops, to bring them also to a certain extent under military discipline, it was necessary, that stricter rules must be enforced to the limits of cantonments, including the bazaar areas attached thereto”.

To enforce the above, special rules were made governing cantonments in India, and which amongst other things duplicated the following functions of a normal civil municipality:—

- (a) The appointment of a special cantonment magistrate.
- (b) The creation of a special cantonment police.
- (c) Imposition of special cantonment taxes.
- (d) Special regulations governing —
 - (i) the ownership of land and property,
 - (ii) execution of contracts,
 - (iii) consumption of spirituous liquors,
 - (iv) construction and maintenance of buildings and roads,
 - (v) supervision of public water supply, markets and slaughter

houses,

- (vi) the running of entertainment places like cinemas etc.

THE CIVIL-MILITARY DIVERGENCE

Thus unlike the US, our cantonments were not just military training establishments, but they formed independent and separate military stations, and were administered as such, but under military regulations, which gave special privileges to the soldier. The most important result of the divergence between the civilian egalitarianism and military professionalism was an increased isolation of the army from the rest of Indian life. This trend continued for almost a century, and also throughout the Independence movement, a period when the nation was least sympathetic to any kind of military elite. Thus a gulf, far wider than was ever known before, came to separate the army from the rest of the country in attitudes, values, and beliefs. However valuable this may have been to the growth of military professionalism, its consequent isolation was scarcely an unalloyed blessing. Except in occasional nature calamities like floods and earthquakes etc, which brought about some rapport between the military and the people, the regular army was sufficiently isolated in cantonments to resemble a monastic order, isolated often physically as it patrolled disturbed areas of our Independence movement, and isolated still more in spirit and mind, as it cultivated specialized skills within a subjugated nation of the BA,LLBs.

However when the British troops left our cantonments, an anticlimax set in: Whereas in the olden days, the cantonments were stations which were methodically planned, kept spotlessly clean, and catered for the most modern conveniences in services such as water supply and sanitation, today the opposite is the case. It has now become common joke, that in the 20th century, if one wishes to see an open drain, or a 'thunder-box', the only place he can see them is in some of our Indian cantonments. Even in the first class cantonments like Poona, Mhow, Bangalore, and Secunderabad, whereas the adjacent civilian city area has fully changed to modern water borne sanitation, the connected cantonment area still carries on with the 'dry' system of sewage disposal.

Similarly, the growth of a modern metropolis consisting of wide roads, modern houses and spacious lawns in the city area, is a bizarre contrast to the dilapidated condition of houses and parks in the cantonment area. However, the biggest joke is, that today in our cantonments, there are 3 to 4 times as many civilians residing as army personnel. To take an example, there is hardly a single military man residing today in the Main and East streets which run through the heart of the famous Poona Cantonment. Similar instances are also prevalent in other big

cantonments like Bangalore and Secunderabad. And yet, these towns still continue to be called military cantonments, and are governed by the old British laws of yester years, and which have long since outlived their purpose and usefulness, and if anything, they are a hindrance in the blending of the military in the main stream of our national cultural life.

ITS FUTURE

The conference of Local Self-Government Ministers, conveyed soon after Independence by the Central Ministry of Health, while recognising, that for reasons connected with the security and health of troops, the areas where the latter are quartered should be under the general control of the army authorities, recommended, that the Central Government should appoint a committee to examine the question of delimiting the areas of cantonments and the desirability of amending the Cantonment Act. The Committee submitted its report in 1961. In its opinion it was desirable,

“that cantonments should in fact maintain, as far as possible, in the foreseeable future their original characteristics of military stations, considering all the circumstances associated with the present state of the country in its political, economic and public health aspects. The maintenance of satisfactory conditions of security, discipline and health among the troops, which are necessary to efficiency, will not admit of taking chances, and the transfer of the administration of Cantonment Boards to civil majorities, we feel, is fraught with consequences which may prove detrimental to the efficiency of the Army, its health and morale”.

As the above report was submitted only four years after Independence, certain statements made therein, such as, “the present state of the country in its political, economic and public health aspects etc”, is understandable. However, since then a lot of water has flown in the cantonment open drains, and although 20 years have elapsed, the old regulations still continue, although in a modified hotch-potch manner, and in the bargain, the general conditions of cantonments have further deteriorated.

The question naturally arises, whether the cantonments in their existing form are at all necessary. The specific question asked is, whether they are a necessary element to the natural growth of military institutions in the country. The immediate answer appears to be, that being psychologically tied to the British imperial way of life for over a century, we are most reluctant even today to let go some of their old institutions. The classic example of this, is the continuation of the JCO rank in a Hindi-

speaking Indian army. Leave alone our cantonments, we have not made any changes, or hardly any, even in the locations of our Ordnance Depots, which still continue to remain in the same stations where they were established during World War II, for fighting a campaign in the Far East.

CONCLUSION

The Union Jack has come and gone. Our Constitution has changed a dozen of times. Four wars have been fought since Independence. Even a satellite has been established at Arvi. However, all this has made no difference to our beloved and hallowed cantonment, with its lal kurti bazaar, the topkhana area, the jarnail sahib kothi, and of course, the Mall. How can therefore one blames the military attache's daughter, if she still insists, that her home in UK is located in the military area of London Cantonment.

MAKE UP YOUR MIND- COMMANDER

LIEUT COLONEL MR MATHEWS

INTRODUCTION

It was in enemy territory, and he was given the task of securing the next phase of the Brigade attack. He was a senior Battalion Commander, but as I watched him going hither and thither, incapable of selecting his next line of action, I could not help but deplore that vital "something" which was deficient. He did not seem to be able to make any decision, and finally, his troops did NOT put in the attack. Command and decision making must, of necessity, go hand in hand.

COMMAND

THERE are two elements in Command—the tactical or strategic and the art of leading men. Tactical leadership is a purely military matter, but the art of leading men is not confined to the services alone. It is an art which is called for in many vocations. Both tactical command and the art of leadership are the inseparable requirements of a good commander.

TACTICAL COMMAND

Where tactical command is concerned, the commander must first assess the situation correctly and make a clear differentiation between established facts and the conjectures which arise out of them, as well as those which might occur due to further developments. Next, in order to fulfil his aim, he must make a clear appreciation of the courses open to him, within the framework of his given resources. Then he must arrive at a sound decision based on the essentials, in the shortest possible time. Last, but not by any means the least, he must be able to transform his decision into action, expressing his orders so clearly to his juniors, in

language which they have no difficulty in understanding, so that each and every one of them knows exactly what is expected of him and what his contribution is towards the desired goal. Situations may vary in war and the exact course of events can hardly be anticipated, so there can be no set doctrine in tactics, but the commander has, as a guide, certain principles which remain constant, and others which come into being with the changing face of warfare through the years.

LEADING MEN

There is no substitute for that intangible quality which we call personality—for to quote Hilaire Belloc—"the thing of ultimate effect is character not intellect." Someone has defined leadership as "an art, a free and creative activity resting upon character, ability and spiritual power". The ability to lead is not merely technical or physical, it is more of the nature of a mental or spiritual ability. It is of special significance in the Armed Forces, where the leader is required to inspire devotion and an extreme effort physically, mentally and spiritually from the men under his command. This entails a high measure of self-discipline, independent thinking and responsible action towards a given end, on the leader's part. Leadership, after all, begins from the leader himself. His own character, actions and self-discipline are the starting points.

The leader must have a good knowledge of psychology, especially mass psychology and he must thoroughly understand the characteristics of troops under his command, especially when they are of different ethnic groups, regions or religions. He must know their weaknesses and their strengths. He must have the courage to correct as well as to praise, while all the time being as human as possible. Above all, he must have faith in his men, because without faith there is no successful leadership, and he must inspire reciprocal faith and confidence in himself on their part, then only will he receive unquestioned and willing obedience to his commands, even to the supreme sacrifice. However good other things may be, there is one factor without which nobody of troops can be successful—there can be no victories without good leaders. Leadership then is the most vital factor of all.

DECISION MAKING

There are a number of techniques which can assist in the designing of the actual decision. One technique is the factor—deduction method used in the military appreciation. Another is what is commonly known as critical examination and consists of answering a series of questions under the headings—"present facts", "alternatives" and "selections"—seeking to establish—"what is achieved", "what are the alternatives", and "what

are the short or long term answers". In using this technique the same rules on impartiality, completeness and logical sequence apply, as they apply to the military appreciation.

Although every decision is in fact a risk-taking judgement, decision making in itself is a systematic process which can be reduced to six clearly defined elements :-

- (a) Classify the problem
- (b) Define its essential causes
- (c) Specify what the answer must satisfy
- (d) Decide what is right before what is acceptable
- (e) Build up the action to carry the decision through
- (f) Check the decision against the actual course of events

While these of themselves do not make decisions, they can be used as stepping stones to making right and effective decisions.

The effective decision maker must initially determine the type of problem with which he is dealing. He must decide whether it can be solved by the application of existing policy or doctrine or whether any variations or innovations are required to be made to attack the problem from an entirely new approach. It is a common mistake to use current doctrine to problems which arise from new and different situations. Though established doctrine does exist to assist in the solving of most problems, situations do arise for which there are no guiding principles; problems which are new, if not to the army, to the individual himself.

In approaching the problem itself the very first step the decision maker must take is to determine its essential causes, and how to attack the root of the problem. The root of a problem is quite often found not where the problem itself is most apparent.

When starting to think about the actual decisions, however, the greatest mistake is to begin with the question—"What is acceptable?" To start with this question is to run the risk of unwillingly giving away the important things and of losing any chance of coming up with an effective—let alone a right—decision. The effective decision-maker starts out with what is right rather than with what is acceptable, precisely because he has to compromise in the end. Some compromises merely limit the effectiveness of a decision, while others will completely destroy it.

Having decided what his line of action is to be the decision-maker must now decide what his decision must accomplish. He must write out a

specification for his decision. These specifications must be positive statements and expressed in measurable and observable terms. More often than not, it is not easy to determine the correct and positive specifications for a decision. However, unless they are determined, the decision-maker is merely "flying blind". Not only must he be clear about his positive aims, but he must take into account the side effects he wishes to avoid. Examples of ineffective decisions due to wrong or incomplete specifications abound.

No decision is complete however, until it has been converted into action. If any decision is to be effective, the decision-maker must surely think through what action, commitments it requires, what work, assignments follow from it and what manpower is available to carry it out.

Finally, the decision-maker must check the effectiveness of his decision against the actual course of events, by seeing it implemented on the ground. He must check whether the assumptions on which his decision is based are still valid or whether they are becoming obsolete and need to be revised, for even the best decision has a high probability of being wrong and even the most effective eventually become outdated.

PRAGMATIC SOLUTIONS

Army training develops the pragmatic approach to solving problems—a solution arrived at by application of time-distilled rules and principles, contained in pamphlets and manuals, covering every known military activity. Pragmatic solutions based on proven doctrine not only allow for quicker decision-making, but have a greater probability of success. A body of established doctrine is in itself an excellent thing, enabling problems to be handled with considerable speed and success. But it is the very excellence of our tools for problems—solving pragmatically, that is our "Achilles heel", for it tends to destroy the ability for original thought, and what is even worse, the ability to recognise when original thinking is called for. Throughout the ages, armies have been prone to apply old rules and old principles to new situations with disastrous results. New methods, new policies and new principles have to be developed and doctrine kept continually up-to-date.

APPRECIATIONS—PECULIAR TO MILITARY SITUATIONS

Appreciations are held to be the most effective method of arriving at a logical and therefore, correct solution to a tactical problem in the Army. The guide lines for an appreciation usually follow rigid staff duties from, starting with Ground and Enemy Dispositions, Relative Strengths, Time and Space and ending with Plan, and officers are expected

to follow them. It is a tidy arrangement no doubt, and helpful to the person reading it, but is it the best means by which the officer can sort the problem out?

DISADVANTAGES OF WRITTEN MILITARY APPRECIATIONS

The necessity for strict adherence to minor staff duties and the sequence of military writing greatly inhibits the flow of thought and wastes time and effort. Some flexibility in sequence might be permissible to cater for many factors that are interrelated—the consideration of one often leading on to another almost immediately. Some form of check list, like an aide-memoire, is certainly desirable, so that no important factor can be omitted, but since the main point is surely that the writer conveys his thoughts without ambiguity, freedom of expression and the use of individual—but intelligible—abbreviations if permitted, would help to hasten the transfer of thoughts to paper and more correctly convey the writer's reasoning process.

The mass of detail which is usually required to be given in a normal appreciation is another disadvantage. How often those making an appreciation are left with the nagging thought—"Have I shown that ALL factors have been considered?" And yet, very rarely are two solutions to a problem exactly the same, even though the identical factors have been considered. Surely some reduction in repetitive details could be permitted, especially in the "Attack", where one of the approaches obviously predominates.

Finally, there is the matter of time. In active operations, officers will invariably not have much time to make decisions. This is particularly so at unit and sub-unit level. Lengthy, detailed appreciations will scarcely be possible at such times. Some modification of our attitude towards the writing of appreciations may be considered, if officers are to be trained to be able to think quickly through a problem and grasp the essentials and make a decision. It is all very well to have "a design for battle", but what happens when things go wrong? At such times, a sound decision based on the essentials, must be made quickly and effectively.

It may be worthwhile to consider that with some experience, an officer given accurate information as to the enemy's deployment on the ground, should be able to subconsciously develop the factor of "Ground". If then he went through the most likely approaches and considered, at that time, along each approach, "Relative Strengths" and "Time and Space". together, he might be able to arrive at the most viable solution in a much shorter space of time. At the moment, it takes approximately four hours

to make a written appreciation, whereas by this process, it should require only forty minutes.

ADVENTURE TRAINING

Although opportunities do of course exist for decision-making in day-to-day regimental life, still, at the junior officer level, an invaluable method of training for quick decision formulating can be achieved by what is known as "adventure training". Too often training which is geared to individual and collective professional proficiency, fails to exaggerate the grain of junior officers in their ability to give quick and effective decisions

AS PRACTISED IN FOREIGN ARMIES

Adventure training was officially introduced into the British Army in 1960, and similar schemes are also encouraged in the U.S.A. It has proved a very viable form of inculcating in the junior officers an ability to react quickly to unexpected situations in strange places, developing their resourcefulness and endurance. Small bodies of troops are sent out on a variety of tasks, involving canoeing, hill climbing, mountaineering and sailing in places as far apart as Norway, Kenya, Hong Kong and the Rocky Mountains of Canada. All decisions with regard to equipment, planning and execution are left to the junior commanders to work out. The guiding principle is that the activity planned should stimulate originality, inventiveness and daring and be dependent for success in the overcoming of obstacles by a well-conducted and disciplined party acting as a team. Any task which requires initiative, determination and imagination is encouraged with a view to developing the traits of self-confidence, self-control and on-the-spot decision making in the face of stresses and shocks occasioned by unfamiliar surroundings and uncommon requirements. Training like this cannot help but contribute to an improvement of positive individual qualities, and develop leaders with sober and sound judgement formed from their own experience. It is worth emphasis that individual qualities can flourish best in an atmosphere of individual freedom. Leaders become more discerning and learn to take calculated risks and give prompt decisions.

CONCLUSION

During world War II it will be remembered, Commanders were called upon to make on-the-spot decisions which vitally influenced and completely changed the course of operations, causing repercussions for all time. Famous examples are Eisenhower at Kasserine Pass in February, 1943; Montgomery at the Battles of Alam

Halfa, September, 1943 and El Alamein in October/November 1942 ; and Eisenhower again in the Ardennes battle of December, 1944. These are only a few instances which go to prove how vital and essential effective decision-making is and must be in the Army. Unfortunately, in cases one too often, junior and senior commanders diplomatically stall decisions under various pretexts like waiting for the opportune moment. Invariably these lost cases pass on into history of yesterday or even yester-years and as a result, "sitting on the fence" has almost come to stay with a degree of permanency more than did Parkinson's law and responsibility in every day walks of life is shifted right down the line.

Churchill in writing about the illustrious Duke of Marlborough—the soldier who never lost a battle—said about the Duke's infallible and prompt decision-making capacity—"the success of a commander does not rise from following rules or models. It consists in an absolutely new comprehension of the dominant facts of the situation at the time and all the forces at work".

Go firm, therefore, on your line of action, commander, and give a prompt decision !

HELICOPTER FOR AIR OBSERVATION

LIEUT COLONEL BS AILAWADI

INTRODUCTION

Before the Second World War, the gunners, belief in the possibilities of light aircraft flown by artillery officers for air observation led to discussions of both 'auto-gyro' and fixed wing' aircraft in many countries. During the Second World War, a fixed wing light aircraft was extensively used for artillery observation, but soon after the war, the idea of using a rotary wing aircraft for such purposes was successively tried, and since then a helicopter has replaced its counterpart, the fixed wing type, in many countries.

It is with this idea that I shall discuss the efficacy of the helicopter for an air observation post (Air OP) as against the present fixed wing light aircraft.

HISTORICAL SURVEY

IN the Royal Artillery, however, the first experimental fixed wing flight was formed on 1 Feb 1940 and it blossomed during the war into very successful Air OP Squadrons. Their access to rotary wing aircraft dates from the end of 1946—when a flight of one of the Air OP Squadrons was equipped, for experimental purposes, with an American helicopter, 'SIKORSKY R-6'. Both the squadron and their School of Artillery reported favourably on the helicopter as an Air OP Vehicle.

British Air OP, thereafter, were partly equipped with their own design—'Skeeter AOP 12'—a two-seater helicopter, and at the same time, retained their 'war horse'—the Auster' in their squadron service.

For the subsequent 10 years, till the formation of the British Army Air Corps on 1 Sept. 1957, hardly any progress was made. On the other hand, various other armies, especially the French and the American, were

experimenting to use helicopters for a variety of tactical and logistical functions.

Incidentally in the British Army Air Corps, with the concept of the three-tier system, their aim in equipment was to have a balanced family of three aircraft—a 'Unit Light Helicopter', a 'formation helicopter and a fixed wing Liaison aircraft'—(to be replaced by a rotary wing aircraft SA 330) with their useful loads being 1000 lbs, 2000 lbs and 3000 lbs respectively.

The Air OP falls under the first category, that is, the "Unit Level" and since 1965, the British Air OP has been re-equipped with Bell Sioux—a well proven American three—seater, as its basic helicopter. There was a move at hand, to replace it within the next 10 years, with a more modern design—an Anglo-French light helicopter—SA 340.

As described earlier, it is not the UK alone where a helicopter has been accepted as an Air OP vehicle. Both France and the USA have been the pioneers in this field, while in many other countries, the helicopter is being used for observation duties. Starting with the piston-engined helicopters, both France and the USA have now developed robust simple and dependable light helicopters with gas turbine as their motive power. To quote a few:-

Alouette II—A French observation helicopter, built for the army and currently in service in many countries.

OH—6A —An American observation helicopter, especially built for and in service with the US Army.

Other modern designs in light helicopter series are Hughes-300 (American), Kawasaki—KH 4 (Japanese) and Helicar—A 104 (Italian). These light helicopters at unit level are instantly available to unit commanders for observation, liaison, reconnaissance and a variety of other tasks. In fact—'you name it, they do it'—hence they have an edge over their "fixed wing" counterpart.

AIR OP IN INDIAN ARTILLERY

In India, the fate of the Air OP has been closely linked with 'economics vis-a-vis operational necessity'. It is only when the operational necessity was fully established, that the 'economics' gave in. To recount, Air OP in the Indian Army came into being on 15 Aug 1947, when No 1 (Independent) Air OP Flight was formed at Lahore with other serving Indian officers in the 659 Air OP Squadron RAF, at that time. Later during the year, No 2 Air OP Flight was formed at Devalali on 1 Nov 1947.

For the subsequent 10 years, when the other armies were experimenting with helicopter as an Air OP vehicle, in India, the Air OP was merely seeking recognition. Both No 1 and No 2 Air OP Flights remained equipped with old Austers and functioned as the proving ground for the Air OP in Indian Artillery. In 1958, therefore, when the expansion programme was undertaken, two additional flights (No 3 and 4) with a squadron headquarters were raised with 'Auster IX'—a fully developed fixed wing aircraft for Air OP duties but slightly under-powered.

After the events of 1962, although a further expansion has taken place with a new substitute 'Krishak Mk II'—another fixed wing type but India's own, there has also been rethinking on the employment of the fixed wing aircraft in the mountains, based on the fact that the present fixed wing 'Air OP aircraft with its 'limited ceiling', 'Alc dependence' and 'poor performance at high altitudes' is well nigh ineffective at those heights. Later during 1965, the operations against Pakistan, though having enabled the Air OP its rightful recognition, have also confirmed that a fixed wing aircraft was not ideally suitable for its functions.

ROLE AND FUNCTIONS

I shall now apprise my readers with the role of the Air OP and its functions—and then in the light of the design characteristics evaluate whether the 'fixed wing' or 'rotary wing' type of an aircraft is more suitable.

The value of Air OP and its traditional role of 'Eyes of the Artillery' was duly confirmed during the 1965 operations in Kutch and Pakistan. The primary functions of the Air OP being :—
(a) Observation of fire (b) Reporting information and (c) Oblique photography

All other functions are secondary. A few of these other functions, that the Air OP is often called upon to do, namely the battle surveillance and battle control including reconnaissance by commanders are so important that these may have to be undertaken in preference to a primary function when the conditions so dictate. Though it is the responsibility of the flight commander to assess the validity, priority and urgency of a request and advise the formation commander accordingly, it must not be forgotten that the force commander's needs will be paramount and so will be his decisions.

HELICOPTER CHARACTERISTICS

Before I explain the characteristics, it will be pertinent on my part to briefly explain as to how does the helicopter fly.

Propellers and jets achieve their forward reaction ie Thrust, by accelerating a mass of air backwards. In like manner, the helicopter's main rotor drives a column of air downwards and so experiences an 'upward thrust'—which in 'hovering flight' obviously balances the aircraft's weight. In order to climb or descend, the pilot increases or reduces the rotor blade's Pitch and hence the Thrust they produce. (Pitch, incidently, is the angle at which the rotor of the helicopter cuts into the air). For 'Level flight' in any direction, with the choice of flying backwards, sideways or forward, the pilot tilts the rotor in that direction, so giving the 'thrust' a desired horizontal component.

A few words about its very familiar design ! Till very late, most of the helicopters were small in size and derived their motive power from a piston engine, which drove the main rotor through a shaft. This created an immediate complication, in that, the 'Torque' reaction tended to spin the whole fuselage in the opposite direction to that of rotor—and this had to be countered either by having two or more main rotors whose torque reactions cancelled out or, more commonly seen these days, by a small 'Tail Rotor', giving a sideways thrust to cancel out torque reaction. Introduction of a 'tail rotor' was first tried out successfully by Mr Sikorsky, the great helicopter designer and is therefore named Sikorsky Configuration and this configuration has since become conventional.

In the latest designs, the 'gas turbine' has replaced the 'piston engine' thereby producing increased power with less vibration but the main rotor still remains shaft-driven and so does the 'torque reaction'. However, its rotatable characteristics are :—

VERTICAL FLIGHT

By far the most important characteristics of the helicopter is its ability to take off and land vertically. Experiments have proved that given just enough clearance for its rotors, it can land with pin point accuracy—and no airfield or airstrip of any sort is required. Therefore, it may be a jungle country or a mountainous terrain, unlike the fixed wing aircraft its operation remains independent of terrain limitations. In addition to the vertical take off and landing (VTOL) it also has the ability to 'hover' at a given point for any length of time.

MANOEUVRABILITY

The helicopter can fly in all directions—forwards, backwards and sideways and in addition can 'hover' over a spot for long periods. This gives it an edge over the fixed wing aircraft and accounts for its versatility.

FLIGHT SAFETY

One of the helicopter's most important contributions to flight safety is its ability to make safe power off—'auto rotational' landing on to almost any type of terrain. Flying or navigating a helicopter presents no problem either. Experts in the UK believe that the time to solo on a helicopter for a pupil who has never flown any type of aircraft before, averages 15 hours. This should be quite encouraging to my friends who cherish the idea of becoming 'helicopter pilots' at some later date.

I shall not dwell any further on the capabilities and limitations of the helicopter which are generally known and described at length in the training manuals, but compare a few of these with those of fixed wing aircraft in use in the Air OP.

OTHER MISCELLANEOUS USES OF LIGHT HELICOPTER

Though primarily for observation role, these helicopters when fitted with external panniers, are suitable for casualty evacuation and various 'armament packs'—containing machine guns or grenade launchers, to exploit its offensive potential.

EMPLOYMENT

In India, with limited availability of IAF aircraft for close air reconnaissance by formation commanders and with no 'army air corps' worth its name, there is a greater dependence on the Air OP to perform such tasks like maintenance of battle surveillance and acquisition of immediate information on the conduct of battle, enemy movements and his reactions. Such tasks demand an utmost speed of action both on the part of the briefing officer and the Air OP Pilot and unless the latter is airborne without much loss of time, the sortie may not be useful. Therefore, to ensure this speed of action and effective employment, it is desirable to locate both the pilots and his aircraft close at hand. But the present fixed wing aircraft with its inherent dependence on ALG, limits such action for the following reasons :—

- (a) To meet its flying requirements i.e., to have an ALG of required size (minimum 300 yards long and 25 yards wide with an additional 10 per cent increase in length for every 1000 feet above sea level) and shape; free from obstructions at each end, and with good concealed approaches, it will be extremely difficult or seldom possible to locate an ALG close to formation headquarters/unit when operating in the plains or mountainous terrain.

Comparative Data

Characteristics	Fixed wing Aircraft	Helicopter	Remarks
(a)	(b)	(c)	(d)
Take off/Landing	Dependance on ALG*	VTOL	*Greater skill required due to high landing velocities
Hovering	Not possible	Possible*	*Can totally dispense with Helipad when so required.
In-flight Visibility	Limited	Good**	*Engine in front **Forward, Sideways and down visibility
Flight Safety—			
(a) Hazard due to 'Power Failure'	Maximum	Practically Nil*	*Safe 'Power off'—Auto-rotational landing is possible
(b) Hazard due to Bad weather	Maximum	Practically Nil*	*Can always land safely and sit out of weather.
(c) Hazard due to low speed	Stalling hazard	Nil*	*Lift depends upon Rotor Blade speed and not on aircraft speed.
Performance at high altitude	Poor	Good*	With Gas turbine engine.
Employment in mountainous terrain	Limited	Good*	*No dependance on ALGs and clear approaches (VTOL)
Seating arrangements (during Commanders reconnaissance)	Inconvenient	Convenient	
Fuel consumption	Low	High	
Cost	Low	High	

- (b) In operations of fluid nature, the preparation of ALGS where required either with unit or engineer assistance is likely to lag behind and thus pose a situation whereby the distance between the formation headquarters or unit, having been re-deployed ahead, and the ALG in use could so outstretch that no field communication would be possible, thus rendering an intended sortie ineffective for want of control.

To ensure therefore, that the pilot is briefed on a sortie by the briefing officer personally, when so desired for security reasons or when the field communications are not dependable and that no time is wasted due to the pilot's movement from an ALG to the formation headquarters/unit for such briefing and return to the ALG, the need for an aircraft-free of its dependence on an ALG, becomes imperative; hence the requirement for a light helicopter in the Air OP. This will afford the following advantage :—

- (a) A helipad, being much smaller in size as against an ALG, will be easy to reconnoitre and organise in close proximity to a formation headquarters/unit and could easily be located within the perimeter of a defended area to afford local protection against the ground threat.
- (b) The pilot could then remain fully abreast with the tactical situation at all times, thus increasing his chances of survival during a sortie against possible enemy action.
- (c) Personal briefing will always be possible and the aircraft could easily be landed close to a formation headquarters/unit for such purposes, thus reducing the time between the briefing and the take off considerably.
- (d) Maintenance of communications will present no problem and a sortie could never be abortive for want of control.
- (e) Location of the Air OP will conform to the movement of troops on the ground and it will always be at 'back and call' to the commanders for reconnaissance or for any other Air OP tasks.
- (f) Lastly, during flying, the pilot could steady himself in a convenient position and thus be able to carry out an intimate battle surveillance over a given zone and perfect his observation of fire.

CONCLUSION

Having seen the advantages a helicopter affords as an Air OP vehicle and having compared its characteristics—

that prove its versatility, I would like to leave my readers with the following thoughts :—

- (a) We have no doubt that in the mountains we shall seldom find an ALG while a 'helipad' would be possible; therefore, a helicopter with its notable characteristics of VITOL and HOVERING, is the only answer. Agreed its cost is more but against an operational necessity this high cost has got to be borne. There is no other alternative.
- (b) In the plains, again the helicopter has an edge over the fixed wing aircraft—but bearing in mind the high cost here we can strike a compromise and that is, have 'Composite Flights'—each having a minimum of two helicopters and remaining being the present fixed wing type.

Before I conclude I may add that the need for air observation has long been established and there is no doubt that without adequate air observation, the gunners will remain handicapped in discharging their functions effectively. It is imperative, therefore, that the Air OP should be equipped with the type of aircraft that contributes fully to its role and functions—the answer lies in replacing the present fixed wing aircraft with a suitable light helicopter.

ORGANISATION OF THE INDIAN ARMY ON THE EVE OF THE OUTBREAK OF THE FIRST WORLD WAR

SD PRADHAN

EVOLUTION OF THE INDIAN ARMY

THE advent of the British in the Indian subcontinent and the employment of Indians by them, for their own protection, originated the Indian Army. The East India Company, which started recruiting Indians to serve it, helped to enhance their military capability. The training and the drill imparted, the discipline and morale instilled by the British, made a world of difference to the Indian soldier. It was an interesting, though also a humiliating spectacle, that a troop of Indian soldiers trained by the British on European lines, could easily beat another native army not trained by the Europeans. That is why most of the Indian rulers, later on, tried to employ the Europeans to train their armies. The more efficient and improved organisation of the armed forces in India was one act of the British that gave stability and cohesion to their empire which weathered all storms until the nation became independent.

The British came to India to trade and gradually acquired many trading stations in India. In the beginning, for the protection of their trading centres, they enrolled guards, who could be regarded as chowkidars. In 1668, the East India Company got possession of the island of Bombay. For its defence, the East India Company stationed a garrison there, consisting of 5 officers, 139 non-commissioned officers and men and 54 Topasses.¹ These Topasses were half-castes claiming descent from the Portuguese. This is the earliest force which can be regarded as the embryo of the Indian Army, because at that time, the troops located in Madras and Bengal were negligible in number. The Bombay garrison was increased in 1683 when it was sup-

1. The Army in India and Its Evolution, compiled by the Government of India, Calcutta 1924, p. 3.

plemented by the enrolment of two companies of Rajputs.² Each company was composed of 100 men and was commanded by its own Rajput officers. This small force could be considered as the first regular native troop of the Indian Army.

In 1708, after the amalgamation of the new Company of Merchants and the London Company, three Presidencies, each distinct from the other and each absolute within its own limits, were formed : namely Bombay, Madras and Bengal. Gradually, these Presidencies increased their armies. By 1741, the Bombay Army, besides some 700 so-called sepoys, who attended on the Civil Servants of the Company in the capacity of peons' had a regular regiment consisting of 26 British Officers, 166 Warrant and Non-commissioned Officers, 1,276 Rank and File and 27 Followers.³

In 1748, the armies were reorganised on the European lines. Each Presidency got one company of artillery consisting of 5 British Officers (B.Os) and 110 other Ranks (O.Rs).⁴ A Commander-in-Chief was appointed as the head of all the three Presidency armies. The first appointment was given to Major Stinger Lawrence, 'the father of the Indian Army', who took various steps to improve the organisation of the Indian Army.

Shortly before the battle of Plassey, Clive reorganised the Indian troops by giving them the shape of regular battalions. These battalions were commanded by the British Officers and were equipped on the European lines. The first battalion organised on these lines was known as the 'Lal Pultan' and was composed of 3 British Officers, several British Non-commissioned Officers, 42 Indian Officers and 820 Indian rank and file.⁵ The battalion was divided into ten companies. Gradually many more battalions were raised on this pattern. Clive also introduced the British Officers into the Indian Units.

In 1796, some changes were made in the Indian Army. The number of the British Officers in each unit was increased, the Artillery battalions were created, and the double battalion regiments were formed. But some of the alterations were found defective. The battalions were linked only in theory and had no mutual interdependence or common bond of interest. The control of the Regimental Commanders was excessive, which made it difficult to administer battalions. The increased number of the British Officers in units diminished the authority and dignity of the Indian Army and ultimately resulted in the Mutiny of 1857.

2. Fortesque, J.W., A History of the British Army (Vol. 2), London, 1899, p. 172.

3. The Army in India and its Evolution, op. cit., p.6.

4. Ibid., p. 7.

5. The Army in India and Its Evolution, op. cit., p. 10.

In 1824, the Indian Infantry regiments, which had been formed by linking two battalions, were broken up again into single battalion regiments. In the same year, the number of the Cavalry regiments was increased, partly by using regular regiments and partly by raising irregular troops. The irregular regiments were raised on the Silladar system. Under this system, the individual soldier supplied and maintained his horse, clothing, equipment and arms (other than rifle), receiving in return a higher rate of pay than the non-silladar soldier, whose needs were furnished by the Government.

In course of time, the East India Company acquired more territories and for their protection, it increased the strength of the Indian Army. In 1861, as the result of the Mutiny, the Government disbanded some of the Cavalry and Infantry units and many others were amalgamated.⁶ The Artillery units, with the exception of four Mountain Batteries, Irregular Force (the Punjab Frontier Force) and Native batteries in Bombay, were abolished.⁷ In the same year, the Staff Corps were introduced in all the three Presidencies. Prior to this, whenever the officers of the regimental cadres went on extra-regimental duties, the regimental establishment found it difficult to carry on the work. The institution of the Staff Corps removed this defect. It established a corps of officers in each Presidency of sufficient strength to ensure the smooth working of regimental establishments in absence of their officers. Certain steps were also taken to remove the disparity of promotions of the officers of the different regiments.

In 1886, the Indian Infantry regiments were linked in many groups. Each group consisted of two or three battalions and was given a permanent regimental centre, where one of the battalions of the group was always stationed. A soldier of one battalion was made liable to serve in other battalions of the group. In the same year, a reserve force was created for the first time in the Indian Army.

In 1895, the separate Presidency Armies were abolished and the unified Indian Army was divided into the four commands, viz., "Punjab, Bengal, Madras and Bombay, each under a Lieutenant-General who was responsible for the administration as well as for the training of troops in his command".⁸ These commands were divided into many 1st and 2nd class Districts.

In 1902, Lord Kitchener was appointed as Commander-in-Chief of the Indian Army. He carried out many important changes to improve

6. Das, S.T., *Indian Military : Its History and Development*, New Delhi, 1969, p. 90.

7. *Ibid.*

8. Government of India, *Reort, Army in India Committee*, Part III, p. 1.

the organisation of the Indian Army. He abolished the Indian Staff Corps and from that time onwards all officers belonged to a single corps—the Indian Army. He also abolished the Madras Command in 1904 and the army was divided into three commands—Northern, Eastern and Western.⁹

On the recommendation of Lord Kitchener certain administrative powers were given to the divisional commanders to ensure the quick disposal of routine matters. But the retention of similar powers by the Lieutenant-General of Commands created confusion and delayed the business. In 1907, therefore, the command system was abolished and "India was divided into two armies—Northern and Southern—each under a general officer, who was charged with command, inspection and training, but was not accorded any administrative responsibility".¹⁰ These armies were divided into nine divisions and these divisions were directly under the Army Headquarter for administrative purposes. It was intended that each division would include one or more definite formations together with the garrison troops necessary for the internal security of that area in war. But as the reorganisation involved considerable extra expenditure, it could not be completed by 1914.

By 1914, only seven divisions out of nine were ready for immediate mobilisation. The whole army was divided into two groups—Field Army and Internal Security Troops. The former consisted of Army Troops, nine divisions and eight cavalry brigades.¹¹ The latter consisted of three independent frontier brigades and those troops which were allotted to prevent internal uprising.

THE INDIAN ARMY BEFORE THE OUTBREAK OF THE FIRST WORLD WAR

HIGH COMMAND

In 1914, India being a part of the British Empire, the British Government had a special responsibility and authority in regard to the military administration in India. The Secretary of State as one of the Minister of the British Government had the responsibility for all Indian matters.

The Secretary of State's main adviser on Indian military affairs was the Secretary in the Military Department of India.¹² Beside this a retired offi-

9. Ibid.

10. Ibid.

11. *Army in India and Its Evolution*, op. cit., p. 30.

12. *Report, Army in India Committee*, op. cit., Part I, Sec. 1, p. 4.

cer of high rank of the Indian Army was a member of the Council of the Secretary of State. He advised the Secretary of State in the Council, whenever it took up matters pertaining to the Indian Army.

The Viceroy, being the head of the administrative machinery, exercised the same control on the administration of the Indian Army as he exercised in respect of the other Government departments. There was an Army Department which dealt with the new proposals, relating to the Indian Army, which required the decision of the Government of India. It was headed by the Army Member of the Viceroy's Council. The Secretary of the department was an army officer, of the rank of Major-General,¹³ to assist the Army Member.

The military head of the Indian Army was the Commander-in-Chief. He was also the Army Member of the Viceroy's Council.¹⁴ The Commander-in-Chief in India was responsible for the administration of the Indian Army, the promotion and execution of the military policy of the Government of India, the maintenance of every branch, combatant and non-combatant of the army and supreme direction of any military operations based upon India.¹⁵ The Commander-in-Chief had the Military Secretary on his personal staff to assist him.¹⁶

For the assistance of the Commander-in-Chief in his duties there was the Army Headquarters composed of the three Principal Staff Officers—the Chief of the General Staff the Adjutant General and the Quartermaster-General; and heads of the other minor departments, which were not directly under the Principal Staff Officers.¹⁷ These heads of the minor departments were the Director-General of Ordinance, the Director-General of Military Works and the Director of Medical Services. They were directly under the Commander-in-Chief.

The Chief of the General Staff, headed the General Staff Branch which dealt with military policy, plans of operations for the defence of India, the organisation and distribution of the army for internal security and external defence in accordance with the policy of government, the collection and distribution of intelligence, the supervision of the training of the army, war regulations, the education of soldiers and the intercommunication services.

The Adjutant-General's Branch was responsible for all matters related to the raising, organising and maintenance of the military force, discipline,

13. *The Army India and Its Evolution*, op. cit. p. 54.,

14. *Report. Army in India Committee*, op. cit., Part I, Sec. 11, p. 6.

15. *Ibid.*, Part II, Sec. I, p. 6.

16. *The Army in India and Its Evolution*, op. cit., p. 58.

17. *Ibid.*

military and internal law, the welfare of soldiers, personal and ceremonial matters, prisoners of war, pay and pension questions, recruiting, mobilisation and demobilisation.

The quartermaster-General's Branch was concerned with the specification, provision, inspection, maintenance and issue of supplies, i.e., food, forage, fuel, clothing, armaments, ammunition, equipment, general stores and material, and reserves of those articles, transportation, movement and quartering of troops, military farms, military works, the remount and veterinary services, cantonment administration and regimental institutes.

DIFFERENT ARMS AND SERVICES

The Indian Army consisted of two branches—Combatant and Non-combatant. The Combatant branch consisted of the Infantry (including the Pioneers), Artillery, Cavalry, Sappers and Miners and Signals. The Non-Combatant branch consisted of the Supply and Transport Corps, Indian Medical Service, Ordnance Services, Remount Services and Veterinary Services. The strength of the combatant troops of the Indian Army, on August 1, 1914 was 155,423 men.¹⁸

THE INDIAN INFANTRY (INCLUDING THE PIONEERS)

At the outbreak of the First World War, the Indian Army had 118 regiments¹⁹ of the Infantry and Pioneers. Each regiment had one battalion, excepting the 39th Garhwal Rifles and ten Gurkha regiments, which consisted of two battalions each. The single battalion regiments were chained together in group of two to three units.²⁰ Each group had a permanent regimental centre, where one of the battalions was always located. A soldier of one battalion was liable to serve in any other battalion of the group. During emergency, the regimental centre was employed to reinforce the other units of the group.

Practically these linked battalions were independent of each other. Whenever they proceeded on service, each of them left a self-contained depot, comprising one or two British Officers (B.Os), some administrative and clerical staff, recruits, sick-men and other surplus to war establishment.²¹ Each depot was responsible for enrolment and training of its new recruits. It also maintained the records of its battalion.

The Pioneers were those infantry battalions which were specially

18. The Army in India and Its Evolution, op. cit., p. 219.

19. Government of India. Indian Army List, October 1914, pp. 469-605.

20. Ibid., pp. 469-605.

21. The Army in India and Its Evolution, op. cit., pp. 99-100.

trained for road repairing and making and digging trenches. They accompanied the infantry battalions. The compositions of the Pioneer battalions and the Infantry battalions were similar.

BATTALION

A battalion was commanded by a Colonel or Lieutenant Colonel.²² Each battalion had as its Second in Command a Lieutenant Colonel or a Major. In 1914, the strengths of battalions were of five different numbers, varying between 600 and 912.²³ But most of the battalions had the following establishment :

British Officers	(B.Os.)	—	14)
Indian Officers	(I.Os.)	—	16)
Indian Other Ranks (I.O.Rs.)		—	896)

This establishment consisted of the Commandant, Adjutant and Quartermaster and Eight Companies.²⁴ A maxim gun section was also included in the battalions of field army.²⁵ For the purpose of training, two companies were linked together and known as double company. Thus a battalion consisted of four double companies.

DOUBLE COMPANY

Each double company was commanded by a Lieutenant Colonel or a Major or a Captain.²⁶ Each double company commander was assisted by the double company officers.

COMPANY

In 1907, a company was commanded by a Subadar, an Indian Officer.²⁷ It appears that no change on this score had been made before 1914 and Subadars remained the commanders of companies.

THE INDIAN CAVALRY

In 1914, the Indian Army had 39 regiments²⁸ of Cavalry, besides the Bodyguards of His Excellency the Governor-General. On the 1st August, the Indian Cavalry consisted of 560 British Officers and 24,476 other ranks.²⁹ There were two types of Cavalry regiments—Non-Silladar and Silladar.

22. Indian Army List, Op. cit., pp. 459-605

23. The Army in India and Its Evolution, op. cit., p. 102.

24. Indian Army List, op. cit., pp. 469-605.

25. The Army in India and Its Evolution, op. cit., op. cit., p. 102,

26. Indian Army List, op. cit., pp. 469-605.

27. Collen, E., The Indian Army. A Sketch of Its History and Organisation, London, 1907, p. 50.

28. The Army in India and Its Evolution, op. cit., p. 91.

29. Ibid., p. 219.

THE NON-SILLADAR REGIMENTS

In the non-Silladar Cavalry regiments the needs of soldiers were supplied by the Government. Three of the 39 regiments of the Indian cavalry were organised on the non-silladar system. They were the 26th King George's Own Light Cavalry, the 27th Light Cavalry and 28th Light Cavalry.³⁰

THE SILLADAR REGIMENTS

The remaining 36 regiments of the Indian Cavalry were organised on the silladar system. As mentioned earlier, under this system, the individual soldiers supplied and maintained his horse, clothing, equipment and arms (other than rifle), receiving in return a higher rate of pay than the non-silladar soldiers. The more wealthy and influential sill adars were also allowed to enlist fellow countrymen, who were too poor to provide their own horses and equipment. The men who were so enlisted were known as Bargirs and were equipped and maintained at the expense of their more fortunate patrons, who in turn drew a recognised proportion of the pay of their Bargirs.³¹

Before the war, the colonel commanding an Indian Cavalry regiment used to receive an annual grant of money from the India overnment in a lump sum of rupees to maintain the regiment. The *Sower* (soldier) paid for his horse and equipment and on his discharge from the regiment, his *assami*, as it was called, was valued and a lump sum was paid to the soldier.³² His horse and equipment remained with the regiment.

The powers of the Colonel commanding a regiment were immense. He was free to buy horses and rations for his men. He would decide from where in all India his men would be recruited and he could actually decide how he would arm his regiment. He would say whether they were to be lancers or light or heavy cavalry.³³

REGIMENT (BOTH SILLADAR AND NON-SILLADAR)

The sanctioned strength of each regiment was 14 British Officers and 620 Indian Ranks.³⁴ Each regiment consisted of four squadrom of identical composition, each of which had to furnish a proportion of specialists when required.³⁵ Each regiment was commanded by a Lieutenant

30. Ibid., p. 91.

31. Ibid., p. 92.

32. Guest, F., *The Indian Cavalryman*, London, 1995, p. 90.

33. Ibid.

34. *The Army in India and Its Evolution*, op. cit., p. 234.

35. Ibid., p. 97.

Colonel who had as Second-in-Command, either a Lieutenant Colonel or a Major.

SQUADRON

A squadron was commanded by an officer of the rank of Lieutenant Colonel or a major or a Captain.³⁶ As each regiment consisted of four squadrons of identical composition, the strength of each squadron would work out to three or four British Officers and 155 Indian Other Ranks.

THE INDIAN ARTILLERY

The strength of the Indian Artillery on August 1914 was 4,160 men which included 67 British Officers.³⁷ The Indian Artillery had 12 Batteries³⁸ of Mountain Artillery. Beside these 12 batteries, the Indian Artillery had one corps of the Indian Coast Artillery consisting of 379 Indian ranks.³⁹ The unit was immobile and was meant to defend the coast.

BATTERY

A Mountain battery had six 10-pounder guns.⁴⁰ The sanctioned strength of a battery was 328 men, which included five British Officers and 323 Indian ranks.⁴¹ As the establishments of Horse, Field, Heavy, Mountain and Garrison batteries were similar,⁴² it appears that a Mountain battery like a Field battery was commanded by a Major, who had a battery staff consisting of a second-in-command (captain), a Serjeant-Major, a Quartermaster Serjeant, Signallers, Trumpeters etc.⁴³ But these men did not form a separate permanent battery headquarters.

SECTION

A battery was composed of three sections. The establishment of a battery was the sum total of the establishments of its three sections.⁴⁴ Therefore, it appears that the strength of a section was one or two British Officers and 107 or 108 Indian Ranks. Each section had two guns (10-prs.) with limbers and four ammunition wagons.⁴⁵ A Section was commanded by a subaltern.⁴⁶

36. Indian Army List, p. 405-448.

37. The Army in India and Its Evolution, op. cit. p. 219.

38. M.D., H.S., Summary Army in India, p. 2.

39. The Army in India and Its Evolution, op. cit., 231

40. Ibid., p. 69.

41. Ibid., p. 231.

42. Ibid., p. 70.

43. Ibid., p. 71.

44. Ibid.

45. M.D., H.S., Proceedings, Advisory Council, Vol. 2, Annexure B, p. 1.

46. Ibid.

SUB-SECTION

A section of a battery was composed of two sub-sections.⁴⁷ A sub-section was the smallest self-contained tactical unit. A sub-section consisted of a gun with limber, and two ammunition wagons.⁴⁸ To carry its gun and two ammunition wagons, a sub-section had three-6-horsed teams. The strength of the personnel of the sub-section was decided by the number of gunners required to work the gun, and by the number of drivers required to manage the teams.⁴⁹ Besides, a sub-section had a few more men, who were required for the two General Service wagons allotted to flanking sub-sections, for battery stores, for battery staff and as spares.

The Sappers and Miners were responsible for engineering work. The actual strength of the Sappers and Miners, on August 1, was 67 British Officers, 159 British other ranks and 4,792 Indian ranks. In 1914, there were three corps of Sappers and Miners; namely, the 1st King George's Own Sappers and Miners the 2nd Queen Victoria's Own Sappers and Miners and the 3rd Sappers and Miners. Each of these corps was commanded by a Lieutenant Colonel, who was assisted by two Majors.

Each of these corps had Headquarters and three Depot Companies, Field Companies, Printing Section, Bridging Train Section and Photo-Litho Section. Some of them also maintained Railway Companies and Defence Light Sections.

HEADQUARTERS AND DEPOT COMPANIES

The sanctioned strength of the Headquarters and three Depot Companies was six British Officers, Eight British Other Ranks and 186 Indian Ranks.⁵¹ The Headquarters staff consisted of four British Officers; a Quartermaster and two officers taken from the Depot Companies.⁵²

FIELD COMPANY

The sanctioned strength of field companies was two British Officers, two British Other Ranks and 191 Indian Ranks.⁵³ A company was composed of Headquarters and three sections. Each section was so equipped as to undertake any work independently.

47. The Army in India and Its Evolution, op. cit., p. 71,

48. Ibid., p. 70.

49. Ibid., p. 70.

50. Ibid., p. 219.

51. Ibid., p. 232.

52. M.D., H.S., Report, Sappers and Miner organization, p. 11,

53. The Army in India and Its Evolution, op. cit., p. 232.

RAILWAY COMPANY

This unit was meant to deal with railway work. i.e. repairing engines and railway lines etc. The sanctioned strength of a Railway Company was three British Officers and British Other Ranks and 196 Indian Ranks.⁵⁴

BRIDGING TRAIN SECTION

This section was meant to make floating bridges on rivers, canals etc. The sanctioned strength, in 1914, was 10 Indian Banks.⁵⁵

PRINTING SECTION

This section dealt with the printing work of the corps. In 1914, its sanctioned strength was two British Other Ranks and four Indian other Ranks.⁵⁶

PHOTO-LITHO SECTION

Each Photo-Litho section was composed of two British Officers and four Indian Ranks.⁵⁷ This section was responsible for photography and lithography work.

DEFENCE LIGHT SECTION

Each Defence Light Section consisted of one British Officers, 13 British Other Ranks, 249 Indian Ranks and seven followers.⁵⁸ This section was meant for making lighting arrangements.

THE SIGNAL SERVICES

In 1914, there were four divisional signal companies and one wireless section.⁵⁹ These were affiliated to the Sappers and Miners but formed a separate part. For administrative purposes, they were independent of the Sappers and Miners. The strength of the Indian Signal Service, on the 1st August 1914 was 22 British Officers, 207 British Other Ranks and 375 Indian Ranks.⁶⁰

DIVISIONAL AND WIRELESS SIGNAL COMPANY

Each Divisional Signal Company consisted of five British Officers, 44

54. Ibid.

55. Ibid.

56. Ibid.

57. Ibid.

58. Ibid., p. 233.

59. Ibid., p. 109.

60. Ibid., p. 219.

British Other Ranks and 88 Indian Ranks and 11 followers.⁶¹ The Wireless Signal Company consisted of one British Officer and 10 British Other Ranks.⁶² These companies were commanded by a Major or a Captain. On the outbreak of war, it was found that some more companies had to be raised to meet the war requirement. For this purpose a Signal Service Depot was formed, to train new recruits, at Kirkee, in October 1914. During the war many more units were raised.

The Telegraphs in India were managed by the Telegraph Branch of the Posts and Telegraphs Department, assisted by 600 military telegraph operators and 100 Wireless operators,⁶³ who were attached from the British Units in India.

THE SUPPLY AND TRANSPORT CORPS

The Supply and Transport Corps, in 1914, was administered by the Quartermaster-General and was one of the principal services included in the Quartermaster-General's charge,

THE SUPPLY BRANCH

This Branch was responsible for rations for the Indian troops in certain localities, grain and fodder for army animals (excluding the animals of Silladar Cavalry Regiments); fuel for the Indian troops, bedding and certain articles of clothings for troops and hospitals and miscellaneous supplies, such as cooking utensils, lamps, basins etc. In 1914, the total strength of this branch was 3,858 men including the followers.⁶⁴

In 1914, at each of the principal cantonments in which the British troops were stationed, there was a supply depot in charge of an officer of the supply and Transport Corps, and there were smaller depots at out-stations where there were the British detachments. The reserves of food and clothing were held separately in nine reserve depots at the Headquarters of the divisions. A store officer was posted at Cawnpore (now Kanpur), who purchased textiles, boots and other leather goods from local firms. The purchases of other things were made by the Station Commander of the General Officer Commanding of the division.

TRANSPORT BRANCH

Before the war, this branch had only animals and no mechanical vehicles. The strength of this branch in 1914 was 19,914 men including

61. *Ibid.*, p. 233.

62. *Ibid.*, p. 233.

63. Report, Army in India Committee, *op. cit.* part IV., Sec. 1, p. 19.

64. The Army in India and Its Evolution, *op. cit.*, p. 128.

followers.⁶⁵ The transport branch had two main divisions—wheeled transport and pack transport. This service was meant to convey the stores and luggage of military forces operating in the fields.

(i) Wheeled Transport :⁶⁶

(a) Mules ... 4 Cavalry Brigade Corps
 3 Cavalry Brigade Cadres

(b) Bullocks ... 72 half troops of an
 aggregate strength of
 3, 642 bullocks

(ii) Pack Transport :

(a) Mules ... 17 Pack Corps
 ... 15 Pack Cadres

(b) Camels ... 8 Silladar Camel Corps.
 ... 4 Grantee Camel Corps.

In addition to these, a certain amount of local mule transport was also maintained on an unorganised basis in certain Divisions and Brigades.

THE ORDNANCE SERVICE

The Ordnance Department was under the charge of the Directors General of Ordnance. This department consisted of three sections—the factory section, the stores section and the inspection section. Each section was placed under the control of a Director. The responsibility of this department was to supply the army munitions of war, such as small arms, guns, ammunition and other equipment of technical military character.

Before the war, there were seven main arsenals and seven factories, together with four or five small depots.⁶⁷ The seven main arsenals were responsible for the supply to the divisions allotted to them. The Ordnance Officer in charge of an arsenal was attached to the divisional staff with the designation of the Assistant Director of Ordnance Services. His function was to coordinate the ordnance supply with the demand of the division.

THE INDIAN MEDICAL SERVICE

In 1914, the Indian Medical Service was administered by the Director

65. Ibid., p. 131.

66. Ibid., p. 130. The corps were those units which were maintained in peace time at full war strength, while the cadres were those units which were maintained in the form of a nucleus capable of fairly rapid expansion to full strength on mobilization.

67. Ibid., p. 139.

of Medical Services in India. The Indian Service had two main corps—Army Hospital Corps and Army Bearer Corps. Both the corps had specific duties. The former treated patients while the latter carried patients to hospitals.

The regimental hospitals were not self-contained and were not dieted institutions.⁶⁸ The staff of the hospital consisted of a medical officer, a sub-assistant surgeon, ward orderlies who were drawn from the combatant personnel of the regiment, and a few followers, such as bhitis, cooks and sweepers.⁶⁹ The patient brought his own bedding and clothing and generally subsisted on his own rations. Fans were generally not provided. On the whole, those hospitals were not properly equipped.

THE REMOUNT AND VETERINARY SERVICES

THE REMOUNT SERVICES

This was administered by the Director-General of the Remount Department, who was assisted by a Staff Veterinary Officer and his personal Assistant. Besides, there were 17 Superintendent, two Assistant Superintendents and nine Veterinary Officers,⁷⁰ before the war. This department was meant for purchasing, rearing and issuing remounts to the British Cavalry, artillery and the three non-silladar ragiments of the Indian Army, and the supervision of horse, mule and donkey breeding in certain selected areas.

THE VETERINARY SERVICES :

Before the war, the Army Veterinary Service chiefly took the care of animals of the British units. The responsibility of the Veterinary care of animals of the Indian Army lay with the units. Each unit was responsible for the care of its own animals. In case of emergency, the Army Veterinary Service was called upon to look after animals of the Indian units.

This department was administered by the Director of Veterinary Services. He was assisted by the Deputy Assistant Director. India was divided into three circles—Northern, Central and Southern. Each circle was in charge of an Inspecting Veterinary officer. A veterinary assistant of an Indian unit belonged to that particular unit.

THE AUXILIARY FORCE

VOLUNTEERS

In 1914 there were some volunteer regiments. They consisted of Europeans only. They were employed to relieve the regular regiments of their ordinary routine work but it was limited to local boundaries.⁷¹ Each

68. In regimental hospitals there was no fooding arrangement for patients.

69. The Army in India and Its Evolution, op. cit., p. 121.

70. Ibid., p. 143.

71. Ibid., p. 151.

Volunteer Regiment was given an adjutant from a regular regiment⁷² The Volunteers were not properly trained.

RESERVES

On July 1, 1914 the strength of the Reserve Force of the Indian Army was 33,677 men.⁷³ These were distributed in the following manner :

The Indian Artillery ⁷⁴	...	928 men
The Indian Cavalry	...	1546 men
Sappers and Miners	...	1158 men
The Indian Infantry	...	30,045

There were only some 40 officers,⁷⁵ in the Reserve Force, before the war. They were divided into two branches Cavalry and Infantry.

The men of the Reserve Force were called up annually for training. They were trained with contemporary weapons.

IMPERIAL SERVICE TROOPS

The Imperial Service Troops consisted of the military forces raised and maintained by the rulers of the different Indian States. These rulers had often lent their forces to the British Indian Government to assist them in different wars. The Indian Government in 1889 decided to earmark a portion of troops of states for the defence of the motherland and to fight along with the Indian Army troops.⁷⁶ The principles underlying the scheme were that the maintenance of these forces would be on an entirely voluntary basis, and that these troops would be officered by the Indians. The Government of India had provided only a staff of the British officers, termed as the 'Military Advisers and Assistant Military Advisers' to assist and advise the Imperial Service Troops in organisation and training. The head of this staff was the 'Military Adviser-in-Chief' of the Government of India, a senior military officer.

In 1914, before the war, 29 States⁷⁸ maintained the Imperial Service Troops. The total strength of all ranks was as follows:⁷⁹

Cavalry	...	7,673
Infantry	...	10,298
Artillery	...	373

72. Ibid.

73. M.D., H.S., Summary, Army in India, p. 4.

74. Ibid.

75. Report. Army in India Committee, op. cit., Part VIII, p. 81.

76. British Paramountacy and Indian Renaissance, Part I, Bombay, 1963, p. 969.

77. Ibid.

78. The Army in India and Its Evolution, op. cit., p. 156.

79. Ibid.

Sappers	...	741
Signals	...	34
Camel Corps	...	673
Transport Corps.	...	2,723
		<hr/>
		22,479
		<hr/>

The organisation of troops of different States differed greatly. In Infantry, the platoon and company system existed in a few States only.⁸⁰ The cavalry too was not organised on any uniform basis. The strengths of units of different states differed. The working strength of each unit of Sappers was two-thirds of that of a regular unit.⁸¹

The efficiency of troops differed from State to State. Some of them were better trained while others were poorly trained. Their peace and war establishments differed from those of corresponding units of the Indian Army.

DEFECTS OF THE INDIAN ARMY

The organisation, training and equipment of the Indian Army were defective in many ways. Before the First World War, though many schemes were considered for the improvement of the Indian Army, yet they were not fully implemented.

Lord Kitchener's scheme had intended that each divisional area would include one or more definite war formations together with the garrison troops necessary for internal security, of the area. But as it involved the wholesale readjustment of accommodation which required a large expenditure, it was never completed. The troops allotted for internal security were, in many cases, stationed outside their respective areas.⁸² These troops could not easily be concentrated at one place for training. The result was that the troops could not be given adequate and continuous training.

The elimination of administrative responsibilities from the higher command of armies imposed an additional burden on Army Headquarters, where the administrative machine was clogged by a mass of minor detail.⁸¹ The direct dealing of Army Headquarters with the divisions, for administrative matters, led to delays in the routine work.

The Divisional Commanders were overwhelmed by large administrative responsibilities imposed on them and their staffs were insufficient to

80. M.D., H.S., Report. Imperial Service Troops., p. 13.

81. Ibid., p. 14.

82. Report. Army in India Committee, op. cit., p. 1.

83. Ibid., p. 2.

meet the immediate requirements of administration or to provide for continuity on mobilization.⁸⁴ Therefore they were unable to devote sufficient attention to their primary duty, viz., the training of troops for war.

The composition of the divisions was not adequate. Two of the nine divisions had no Mountain Artillery Brigades. The divisions did not contain adequate number of Sappers and Miners. A division had only two companies of Sappers and Miners but war experience showed that at least three companies were required.⁸⁵

The Indian Infantry battalions were linked in groups but in fact they were independent of each other. Each of them left behind its own depot composed of one or two British Officers, some administrative and clerical staff, recruits and sick men and others, surplus to the war establishment.⁸⁶

Each depot enrolled and maintained its own recruits and maintained the records of its battalion. This meant that many trained officers and soldiers were unable to go on field service. As each depot trained its own recruits by its own officers, uniformity in training could not be achieved. The standard of training and efficiency differed from one depot to another. The strength of each battalion was not the same. The strength of Indian Ranks ranged between 600 to 912. On distribution of the battalions to the different theatres and on mobilization, this had to be kept in mind.

In 1914, there were 36 Silladar regiments and only three non-silladar regiments. The silladar system had many drawbacks. The main drawback was lack of standardization. Every commandant was at liberty to fix his own pattern of equipment other than fire arms and the stamp of the animal. Upto a large extent the standard of efficiency of unit depended on the business capacity of the Commanding Officer, which was not always on par with his soldierly qualifications.⁸⁷ In this system, as every soldier had to pay for his horse at the time of enlistment, it was difficult to procure large number of reinforcements. The silladar regiments were responsible for their pastures and breeding of the horses. The soldiers, therefore, had to devote a lot of time in the execution of these jobs.⁸⁸

The Indian Artillery consisted of only Mountain batteries and one corps of coast artillery. It had no field, horse or heavy artillery. The batteries had only one type of guns viz., 10 pounder. They had no howitzers in 1914, hence lacked a very important weapon of war.

The sanctioned strength of a Sapper and Miner Company was not sufficient.⁸⁹ The Headquarters of a Sapper and Miner Company was much

84. Ibid., p. 2.

85. Ibid., p. 28.

86. The Army in India and Its Evolution, op. cit., pp. 99-100.

87. M.D., H.S., Proceedings, Advisory Council, Vol. I, p. 8.

88. Ibid., p. 19.

89. Report, Army in India Committee, op. cit., Part IV., Sec. IV., p. 28.

more understaffed for the work they had to perform.⁹⁰ This led to delays. There was also no well organised electrical and mechanical services.⁹¹ During the war its necessity was badly felt, specially on the lines of communication.

The Indian Signal Service was also not well organised. There were only four divisional companies and one wireless section. The total strength was only 604 men including British Officers before the war. This number of men was quite insufficient to carry out its work.

Before the war, the supply service was not responsible for the ration of the Indian troops, excepting in certain cases. The transport branch had only animals. It had no mechanical transport service. This hampered the mobility of the army.

The strength of the Reserve Force was again insufficient. The Artillery, Cavalry and Sappers and Miners branches had only a small number of men. It appears from the figures of the Reserve Force that the Signal Branch had no reserves. The officers in the Reserve Force were only 40. They belonged either to the Infantry or Cavalry.⁹² The other branches had no officers in the reserve force.

The Imperial Service Troops were not organised on a uniform basis. The company system had not been introduced throughout in the Infantry.⁹³ The units were not of one size. This was the case in every branch. Many ruling princes maintained small units, and it was difficult to amalgamate them to form a battalion of infantry or brigade of cavalry as their training differed within the units as also in respect of the Indian Army. There was also not system of reserves for Imperial Service Troops.⁹⁴

The soldiers of the Indian Army lacked proper training methods and techniques of warfare in differing geographical conditions. Probably they were also not aware of the effects on weapons of different temperatures, heights etc.

Thus, in 1914, not only the organisation of the Indian Army was defective, but the training of officers and men was also not adequate. It also lacked weapons which were already used by the European armies.

It was with this kind of organisation, in-built deficiencies and insufficient training and equipment that the Indian Army was ordered to fight for the Allied cause in World War 1.

90. M.D., H.S., Report, Sapper and Miner Organization, p. 11.

91. Ibid., p. 13.

92. Report, Army in India Committee, op. cit., Part VIII, p. 85.

93. M.D., H.S., Report. Imperial Service Troops, p. 13.

94. Ibid., p. 14.

BOOK REVIEWS

HISTORY OF THE WORLD WAR

by BH Liddell Hart

(Published by Cassel, London, 1970 pp 635, Price, £ 4. 0

THIS book is an evolution of "The Real War 1914-1918", first published in 1930, through its enlarged edition, published in 1934 as "A History of the World War 1914-1918." It has been published as the companion volume to the author's "History of the Second World War", also published in 1970.

Liddell Hart is a great name in military thinking and writing. "A History of the World War, 1914-18" has long been recognised as classic of military history and a model to the military historians. This one-volume history of the first World War has given a critical account of the great War, including its genesis and epilogue.

The book contains as many as 26 maps and an excellent bibliography. Every reader interested in the history of the first World War will find this edition illuminating and stimulating.

B.C.

TO LOSE A BATTLE : FRANCE 1940

by Alistair Horne

Published by Macmillan, London, 1969) pp 555, Price 63s

ALTHOUGH a number of countries, which took part in the Second World War as belligerents, have published official histories of this greatest of human tragedies, the value of unofficial histories has not become less thereby. A lot of official and unofficial researches carried out in Germany, France, Holland, Great Britain, Italy, Belgium, U.S.A. and the Commonwealth countries and the efforts of the "International Committee on the History of the Second World War" have brought to light various aspects of the War in innumerable details. The capture of the German

Government archives by the Allies after the German surrender in 1945 has enabled the historians to have the German version of the events, but the restrictions on the access to the Second World War records in many other countries, especially France, have kept us in the dark about the Allies' viewpoints. However, from the available records, Alistair Horne has been able to produce an admirably detailed history of the battle for France, 1940. The author has specialized in the Franco-German rivalry and wars of the 19th and 20th centuries. The book under review is the third panel of a triptych of which the previous two were—*The Fall of Paris : "The Siege and the Commune 1870-1"*, and *"The Price of Glory : Verdun 1916."* The author is conscious of the fact that the main theme of his work centres round two principal characters of the drama—France and Germany, and other countries did the supporting roles.

Although the book aimed at giving a detailed account of the two-week long battle for France in 1940, the author has nonetheless provided the readers with a long background of that battle, tracing back to the grandeur and misery of the victory of 1919. The book inspite of its historical details reads like a novel, and readers will find it not only enlightening, but also very interesting.

The book contains 45 illustrations, 9 maps, a useful bibliography, and copious reference notes.

B.C.

SIX BATTLES FOR INDIA

by George Bruce

(Published by Rupa & Co, India, 1969) pp 336 Price Rs 33.75

THE Sikh wars fought some 125 years back still make a fruitful subject of study, in Indian history only few battles have been so well recorded but inspite of the researches which continue to be made no new material seems to come to light, as in the present instance.

The author has relied heavily on the evidence of Colonel Gardner who was probably the only foreigner left in the service of the Khalsa to have witnessed their down fall from such close quarters. Until we have some evidence from the Indians who participated in the fateful events it will not be safe to come to any abiding conclusion on this controversial and interesting subject.

George Bruce has covered the well-trodden ground of the militarization of the Sikhs under Ranjit Singh and the consolidation of the Khalsa

kingdom until it came face to face with the expansionist British. During the later part of this period the British had already decided on the annexation of the Punjab. Ranjit Singh was forestalled in Sind and the area occupied on very flimsy pretexts.

The Afghan campaign which is one of the most fruitless wars of the last century, contributed no less to the Sikh wars. There was considerable loss of prestige by the British in India and the consequent rise of hope among the Sikhs was natural. It seemed to them that the *Feringes*, who had worsted the Marathas in a series of battles had lost their elan and did not deserve the same respect as had been shown to them by Ranjit Singh. The palace intrigues further worsened matters and when one after another generals and princes went down to assassins and murderers, the fate of the Sikh Kingdom was virtually sealed.

Slowly but surely the English built up on the Punjab frontier, south of the Sutlej, in an area which technically was not their territory. It was occupied by them because the local princes were powerless to resist. And when the Sikh soldiery crossed over to the south of the river into their own territory, it was termed as an invasion !

A close look at the battles will convince one that none of them were decisive in the real sense. On the British side there was general lack of command and control. Brigades and battalions went into action, retreat or advance was ordered according to personal whims. Generals and brigadiers were killed or wounded while leading troops like ordinary subalterns. It is obvious there was a general weakness in the middle group of officers, though some of the junior officers did exceedingly well.

The Sikhs on the other hand were surely a disorganised lot and there was a complete absence of experienced leaders. The figures of their armies are open to doubt. Under these circumstances they could not have fielded such large forces. They had virtually no plans. If they had their details are not available. They always retreated because they lacked leaders who could exploit gains and convert minor reverses. The Sikh cavalry retreated most of the time because the riders were the sole owners of their mounts and could not risk their loss. Payments in the Sikh army had already become irregular.

The English won because the Sikh leaders were not present to hold on. This performance was repeated most of the time at Mudki, Feroz Shahr, Sobraon and Chillianwala. The English Commander-in-Chief had eventually to be removed because he continued to blunder time and again. Even though assertions to the contrary it was more the bayonet than anything else that he relied upon. The battle of Feroz Shahr fought within two days

of Mudki ended up with the English having run out of reserves, ammunition and supplies. Chillianwala was equally a poor performance. There was obviously complete mental paralysis in the higher echelons of army command as well as civil authority. The second Sikh war is a glaring example of this state of affairs. All these are ably highlighted in this book, wherein lies its worth.

G.S.

NAVAL POLICY BETWEEN THE WARS

by Stephen Roskill

(Published by Collins, London, 1968) pp 638, Price 70s

HISTORY cannot be a heap of waste, as some educated people might contend, especially when it flows through the pen of Stephen Roskill, a leading British Naval historian. Captain Roskill RN (Retd) who is the author of the official British Naval History of the World War II and other eminent works has done a great deal of research on both sides of the Atlantic before publishing the first of the two volumes concerning the British Naval history between the two Great Wars. The volume being reviewed covers the period 1919 to 1929.

This was indeed a frustrating period for the Royal Navy which with one stroke had lost some 2500 aircraft and 5500 men to the RAF and the Air Ministry which came into being on 1st April 1918. In a large number of other pressing problems too, the solutions for which were often complicated, the Navy's experiences were not altogether happy.

Two main issues dominated this decade. The first : the Anglo-American antagonism, which is also the sub-title of the book and the second : the Naval Aviation Controversy.

Although the readers of history are familiar with both these events, but Roskill's treatment of the subject matter is admirable. At the very beginning he focuses the spot light on the background, and the "brass" and the "frocks" make their appearances. He gives us glimpses of their personalities, thumbnail sketches of their deeds and their overall impact in shaping the destinies of their Navies, the British and the American.

The British, insistence on the right 'to visit and search' neutral merchant ships had been the chief cause of the war of 1812. In 1918 the Americans were not disposed to accept a continuation of the process which had angered them in 1914-16, when the USA was still a neutral country.

During the year following the Armistice, the American anger turned into distrust and later changed into rivalry in building a Navy 'second to none'. This marked the beginning of the eclipse of the British supremacy at sea, which saw its culmination during the last War. This drama was heightened by the Washington Conference and later by the Geneva Conference.

In the Naval Aviation Controversy whilst the American Navy was successfully able to resist parting with her air arm and the formation of an independent Air force, the Royal Navy after the wholesale bankruptcy in this regard didn't even have much say in the air matters concerning the ships and the sea till 1924, when by the Trenchard—Keyes Agreement some corrective measures were taken but restoration to its position of pre-eminence came practically on the eve of World War II, by which time considerable damage had already been done. The dual system of air control existing at that time is somewhat reminiscent of the present state of affairs existing between the Navy and the Airforce in our country as regards as the control of the Coastal Command is concerned.

The long drawn out squabbles between the Admiralty and the Air Ministry which tended to be acrimonious at times hampered the development of the Aircraft Carrier Strategy which the Americans so ably executed in the Pacific during the World War II.

There are a host of other subjects which will be of considerable interest to the navalists and those interested in the maritime affairs of our country.

"Naval Policy between the Wars" is a first-rate book of Naval History and a must for all Libraries.

R.N.G.

KNOW YOUR ARMED FORCES

By A. A. David

(Published by Army Educational Store, New Delhi, 1969) pp 151, Price 15.00

THIS is a guide book about the Indian Armed Forces written by a retired army officer. Beginning with an account of the Military Science during the medieval period, it encompasses the birth of the modern India army, a short history of important Indian army units, the Indian navy and the Indian air force, career in the armed forces, their organisational pattern, training, research and production, the Territorial Army, the National Cadet

Corps, gallantry awards, and even the armed forces who's who. The book contains a few illustrations and charts also.

This is a welcome addition to the already existing literature on the subject, for the information of the general run of people.

B.C.

THE COSSACKS

by Philip Longworth

(Published by Constable, London, 1969) pp 409, Price 63s

THIS book represents an attempt within the necessarily restrict confines of a single volume, to present a general conspectus of Cossack history from the fifteenth to the twentieth centuries. Chapter 1 outlines the origins of the Cossacks and describes their roles as border guards and robbers, the nature of societies they developed and this ways of life they led. Thereafter the general narrative has been interrupted in order to provide a more detailed account of certain Cossack experiences as exemplified by historical figures of more than usual interest.

The Cossacks were daring horseman rivalling the Mongols in their devotion to the art. The Cossacks experience as warriors both on land and water made them much sought after as paid fighters. Their skill at fortification and mobile defence, their courage, resource and ability cheerfully to withstand privation became proverbial and from the earliest times of their settled existence they were in demand to fight other peoples battles.

"The legend is romantic and spectacular. Mention the word Cossack and any of a number of vivid images is called to mind—a fur-capped horseman, sabre flashing, galloping across the empty steppe; bacchanalian dancers in gaudy eastern costume swirling and leaping to the strum of balalaikas; dark riders with leaded whips slashing into a crowd of demonstrators on the streets of a Russian City."

The Cossacks were not a tribe—but though they were predominantly Russian in origin the Cossacks had a different style of living from the Muscovite. The Muscovite originated in the forest and life dictated by the forest—the Cossack was the child of the open steppe. There was no place for them in the 20th century and they have now vanished in our civilisation.

The book should give pleasure to many readers.

N.L.K.

SOLDIERS WITHOUT ENEMIES

by Larry L. Fabian

(Published by Brookings Institution, Washington 1971) pp 351 Price \$7.50

THIS book explores the prospects of strengthening international peace-keeping institutions with special attention to the diplomacy of preparing the UN for peacekeeping and to the concrete problems of mobilising the required human and material resources.

The author traces the evolution of the peacekeeping concept in the UN and assesses the impact of peacekeeping institutions of the secretaries general, of Soviet-American disagreements, and of the interplay of other political and technical factors that have shaped UN capabilities.

These two dimensions—the diplomacy of preparedness and the resource commitments on which a prepared system must depend dominate this book. The chapters that follow deal, in this sense only, with both peacekeeping and preparedness.

Pursuit of these objectives has taken a rich variety of forms and has registered different degrees of success in the dozen or so missions fielded by the UN in the past twenty five years and now customarily referred to as peacekeeping. As early as the 1940-S peacekeeping maps were dotted at Greece, and on the borders of the new state of ISRAEL. The next decade added the GAZA and SINAI in Egypt and then LEBANON. The 1960-S added CONGO, WEST IRIAN (West New Guinea) YEMEN, CYPRUS, the India-Pakistan boundaries and again the Middle East. Ceasefires have been mentioned, borders patrolled, troop disengagements supervised, truces and guaranteed, hostile armies insulated at safe distances and internal security maintained.

Many of these functions, plus a host of others are a standard part of the UN's larger, more complex operations, such as the Congo or Cyprus. In both the observer and the larger missions, Military personnel have generally dominated as peace keepers, although all UN operations have to some extent required the involvement of Civilians in one political capacity or another.

India leads all suppliers in gross man power provided for peace-keeping. Each peacekeeping assignment has brought credit to the country and its armed process. Of the twelve peacekeeping missions authorised since 1945 by the UN security Council the only ones current operational are there in Cyprus, Kashmir and the Middle East.

What is clear about the present state of UN preparedness is that it is inadequate. What demands recognition about the preparedness is not what has been accomplished, but the enormous distance yet to be covered. This book surveys some of the problems.

A well informed and balanced book on preparing the United Nations for peacekeeping.

N.L.K.

MILITARY ORIGINS

by Maj Lawrence L. Gordon

(Published by Kaye & Ward, London, 1971) pp 256, Price 35s

THE contents of this good "book of answers" represent the sum of the authors lifetime interest and research into Military history and explanations for the many queries put to him.

The matter of the book covers the whole field of Military history and knoweldge. The chapters deal with such subjects as Royal Bodyguards, Heraldry, Early English Armies, Cavalry, Artillery, Engineers, Medical Services, Personal Fire arms, Military Music, Military Finance and Aeronautics. A final section of many pages in length is entitled Miscellany and contains hundreds of individual items not dealt with elsewhere.

This book will be sought by every-one interested in Military origins and how it all started. Some will be interested in uniforms and buttons, some in Military music, and so on.

Writing on "Colours" the author states that the Royal Regiment of Artillery and rifle regiments have no "Colours". The former because the guns themselves are the rallying point, whilst the original role of the latter was to act as scouts and advance guards so that the less seen the better they were able to perform their function.

Regarding "Pensions" it was the unofficial custom, prior to the reign of George II, to carry two fictitious persons on the strength of every company so that the money supposedly drawn as their pay could be paid into a fund for those about to retire and those who had already done so. Pensions in anything like the straightforward way in which we now know them were first paid in 1737.

The book is bound to answer some of the questions that may have arisen in the minds of many of us. N.L.K.

SHIPS AND SHIPPING

by Michael Palmer

(Published by B. T. Batsford, London, 1971) pp 96, Price £1.30

THE Merchant Navy has been termed as the 'Fourth Line of Defence' of a country. It is a nation's life line. Its size is usually an index of a country's prosperity. It is precisely for these reasons and many more that we in this country are striving hard to increase our shipping tonnage as rapidly as the circumstances would permit us to do. For an endeavour as big and as important as this it is essential that we carry the intellegensia of the country with us. Thus the education of the lay public in this important national activity needs emphasis. Micheal Palmer's book indirectly fulfills this role. Though it opens a window on the British Shipping industry, its inferences for application in India cannot be overlooked.

Ship's and shipping is basically a historical sketch of Britan's Merchant Navy drawn from the earliest times to the present day. Like an impressionist painter the author has portrayed the story of the premier industry of his country with a wide brush, but with finesse. He tells us how Britain attained supremacy in Merchant shipping and held this unchallenged position for uearly 50 years. She is still one of the leading nations of the world where shipping is concerned. This work transcends the British scene into the world shipping picture.

Various aspects of this industry; and their evalution receive fair treatment. The effect of the two world wars, slump in the world shipping, docks and ports, ships and their cargo and what are the futuristic trends in this field all find their place in the book. Profusely illustrated the book will interest even a specialist, let alone the general reader for whom it is primarily intended.

R.N.G,

THE MODERNITY OF TRADITION : POLITICAL DEVELOPMEDT IN INDIA

by LI Rudolph and SH Rudolph

(Publihsed by University of Chicage Press, Loodon, 1967) pp 306, Price 65s

THE study of Rudolphs deals with a pertinent theme presented in an analytical and persuasive manner. To them, 'modernity', as is generally believed, is not opposed to 'tradition'. In fact, in any

society howsoever developed it may be. traditional sentiments and primordial loyalties do play their role. Nor is the assumption of certain theorists on social change valid that in the new nations in particular, 'modernity' and 'traditions' are dichotomous and contradictory processes. A proper assessment of the social structures, legal-political institutions and elite interaction in the developing nations can be made more meaningful if attempted in the context of viewing the tradition-modernity model in dialectical rather than dichotomous terms.

In part I entitled 'traditional structures and modern politics' the authors have shown as to how the 'reincarnation' of caste associations in various parts of India have not only facilitated modernising process but has also fulfilled certain modernising roles. Through a mass of data the authors, analysing the political mobilisation of caste structures have concluded that by providing some sort of 'common identity' to dispersed isolated castes of villages and locality, the "caste associations have contributed significantly to the success of political democracy by providing bases for communication, representation and leadership. Rather than providing the basis for reaction caste has absorbed any synthesized some of the new democratic values".

Though the authors illuminate a much neglected and partly explained phenomenon of caste in systemic context they seem to give only the other side of the picture : the variables which make traditional structures by dysfunctional in certain situation and functional in another are not fully explored. The authors thus contend themselves by adopting a undimensional approach in this respect. This limits the value of their otherwise very penetrative analysis of caste organisations in India.

The second part of the book analyses Mahatma Gandhi's experiments with traditions in modernising the Indian policy and his various techniques in conflict management for which he drew inspiration from traditional norms and values vested in Indian society.

In the final section, the authors examine the evolution of Indian law and pinpoint as to how while imposing the British law, the British raj advanced the written, more uniform and professionally interpreted law of the 'twice born' castes at the expense of parochial diverse and orally transmitted customary law of the villagers. In practice, they maintain, India's legal system continues to exhibit three legal cultures; within the parochial system the old traditions of legal dispensation in the village community still continues; within the national legal system, the official administration of justice relies primarily, but not exclusively on British legal ideas and procedures; and influencing both are the social norms of Brahman high culture law.

Unfortunately the authors, except in a para in the introduction do not try to link the three parts and present some broad generalisations; there is no concluding chapter in the book, also Rudolphs fail to present an analytical explanations of the much quoted and often misused term, 'political development' which forms the subtitle of the study.

U.P.

WHO RULES A COUNTRY : CHALLENGE OF DEMOCRACY IN INDIA

by R. C. Gupta

(Published by Associated Publishing House, New Delhi, 1969) pp 204 Price Rs. 25.00

SINCE the 4th General Election, the political under current in India is changing in different dimensions. In spite of various pulls and pressures and an increasing trend of political corruption and nepotism, the very survival of India's democracy, in the midst of dictatorial regimes all around, has belied the prophecies of many political pundits. It is in this context that the study undertaken by Dr. R.C. Gupta, has its significance.

The author, having a very close insight into the working of the political system in the largest democracy of the world, microscopically looks at the various problems facing the country. In his psycho analysis of the various pulls and pressures within the system, he very powerfully advocates that there is basically nothing wrong with the democratic process. Rather it is the political actors, who abuse it. It is, in his view, a fallacy to assume that the Indian masses are unfit for democracy.

In his fault finding mission of our political process, he broadly divides his thesis into ten chapters. In his introductory chapter he reviews the basic spirit of democracy as different from totalitarianism. A true democracy, to his mind, must provide the basic economic and social opportunities to every human being, otherwise the so called political liberty, as propounded by J.S. Mill, becomes merely an empty formula. He highlights the over emphasis and inadequacy of such words like power of the people by the marxists and points out the legacy of political centralisation by the Chinese ruling elites. Since ages complete elimination of opposition in Communism, as he thinks, makes it only a negative force.

In the next two chapters on 'Leadership' he focuses his arguments to justify a single point that every leader, whether in a dictatorial or in a democratic system, is a fascist in some degree. A leader in a present-day democracy, to his mind, is one who becomes the 'Centre of living' of the group, he represents. The leadership in a political organisation is determined by virtue of one's economic and social status. Heroworship to the

so-called leaders has become, almost a mania for the semi-literate masses. The leadership principle is based upon 'Capitalizing the human response to leadership and emphasizing the incompetance of the masses to rule themselves.' The mass-media is heavily controlled by the ruling elites, with a purpose to defy the leaders in the eye of the masses. The leaders thinking themselves to be invincible and taking advantage of the ignorant masses, don't hesitate to talk scornfully in the public meetings. The author cites an interesting example of a Minister from M.P. who told in a public meeting that 'the third class government servants should ask their ladies to find out employments for themselves in order to raise their income, instead of asking the government.' (P. 64).

Under the heading of 'Party politics and Leaders', the author highlights the forces of political opportunism and horsetrading in the national politics of to-day. Party politics, although a necessary prerequisite for a healthy growth of democracy, as he thinks, has done the greatest harm to it. But the author fails to realize that the pulls and pressures in the political process, is inevitable at some stage, specially for a new democracy like India. Moreover, his assumption that politics devoid of moral and religious considerations is nothing more than a mere opportunism (p. 78) seems to go against the major foci of democratic governance which is power.

In continuation to his earlier theme, his fifth chapter deals with the struggle for power—among the so called leaders. The old leadership with all its conservative bias, is sometimes replaced by a new group, but the thread of tradition continues without any substantial gain for the masses. In the chapter on 'Government and the people' he highlights the point that every government for its very survival, follows all sorts of heinous and corrupt practices and thereby betrays the cause of the people, whom it represents. Under the heading a 'Democracy at work' he broadly analyses the inadequacies of both liberal and social democracy and pleads for a confluence of both. An important role of the government, he thinks, is to educate the public in the democratic process. He goes on citing numerous examples as to how political power is easily captured by those interest group which have monopoly in the business and industry. With a measure of fairness, he feels that one hundred and fifty members of Parliament are directly controlled by the big business houses. (p. 155). In the chapter on 'Vulgarisation of Democracy' he brings to limelights the ugly outgrowths in the political forces of present day India. Besides a high rate of illiteracy, poverty and lack of communication, the author rightly thinks that, caste, religion, local and regional interests play their major role in subverting the democratic forces in India. The new political game of 'Aya Ram Gaya Ram' has resulted in a complete negation of Parliamentary democracy in India.

The concluding chapter of his book can be better summed up in his own words when he says, 'The entire political life of the country at present appears to be characterized by this sort of political opportunism. Horse trading and jockeying for power are rampant everywhere and it seems that the democratic structure will soon crumble leading the country to some kind of dictatorship.' The author also, links the cold war and 'lust for power' in the international arena to the egoistic nature in man which unfortunately dominates over the superego.

His pathological enquiries into the maladies of mankind has great relevance in the conflict ridden world of to-day. Throughout the book there is an overemphasis on the fascist trend in human nature. Although the author, quite forcefully depicts the vulgarisation of democracy in India he fails to foresee the gradual maturity of the democratic forces in this country.

P.K.M.

BASIC DOCUMENTS IN THE DEVELOPMENT OF MODERN INDIA AND PAKISTAN, 1835-1947

by Christine E. Dobbin

(Published by D. Van Nostrand, London, 1970) pp 1967, Price £2

THIS is a novel type of book—one may call it documentary history—which traces the evolution of modern India, including the birth of Pakistan, from 1835 to 1947. The historical development of modern India has been presented through sixty-five documents of different nature, speeches and writings of educationists, social reformers, politicians, statesmen; Government of India Acts; Resolutions passed by political parties, so on and so forth, — and the author's brief introductory notes on each of the documents. The sixty-five documents are hardly adequate to spell out the Indian development for 112 years, but the author was conscious of that; her only hope was that these basic documents "will provide insight into some aspects of South Asian history during the nineteenth and early twentieth centuries, and in particular, encourage further reading of the writings and speeches of great Indians .." Christine Dobbin's hope has not been belied. To foreign students interested in South Asian affairs, the book will certainly be useful, but Indians will regret its brevity.

The documents reproduced in this book are not always complete nor have they been garnered from original sources. In the glossary of Indian terms, *sanatan dharma* has been wrongly written as *sanata dhavma*.

B.C.

BANGLA DESH CRISIS AND CONSEQUENCES

by N. M. Ghatate

(Published by New Delhi Deen Dayal Research Institute, 1971) pp 152, Price Rs. 15.00

THE book is the compilation of the proceedings of a seminar held on 7th and 8th August 1971 under the auspices of the Deen Dayal Research Institute, New Delhi. Among the participants in the seminars there were important personalities like Sucheta Kripalani, M.C. Chagla, V. Shankar (previously Defence Secretary, Government of India), D.R. Mankekar, A.B. Vajvayee, J.B. Kripalani, S.N. Maitra, M.S. Rajan, and M. Rehman.

Seminars like this played their part in creating public opinion in this country and abroad for helping the people of Bangladesh in their liberation struggle. Although the book has its historical relevance now after the liberation of Bangladesh from the strangle hold of Pakistan, it is nevertheless a useful publication as it has discussed threadbare the different aspects of this politico—humanitarian crisis.

B.C.

KASHMIR AWAKES

by B. L. Sharma

(Published by Vikas Publications, Delhi, 1971) pp 292, Price Rs. 28.50

THE author, an experienced journalist and erstwhile official expert on Kashmir, who became well-known by his works, especially "The Kashmir Story" and "The Pakistan — China Axis", has now come out with a brief but comprehensive volume on modern Kashmir. He has dealt with its social and political problems throughout the ages and tried to throw some new light on the part played by Sheikh Abdullah. One may not agree with his inferences, but everybody will find his statements and arguments well-documented with numerous references. The readers will find the book interesting and informative.

B.C.

ENCHANTED FRONTIERS

by Nari Rustomji

(Published by Oxford University Press, London 1971) pp 333 Price Rs. 45-00

MR. Nari Rustomji, an ICS Officer of the Assam Cadre, has written an impressive book on Sikkim, Bhutan and India's North Eastern borderlands. The authors knowledge of the area is unrivalled

and this is reflected in the contents which are comprehensive and lucid. There is much in this book which will be of interest to the service officer who may find himself posted in these areas.

By granting Union territory status to the North East Frontier Agency which will now be known as ARUNACHAL PRADESH, our Government has not merely tried to force the pace of political development in that remote area, it has also taken a major step towards bringing the local tribes into the mainstream of national life. The British had left them to their own devices; only after independence was a serious attempt made to extend organised administration to this region. Even so, until the Chinese attack in 1962, the progress was slow. Since then however a sizeable net work of roads has been built, many towns and villages have been electrified, hundreds of new schools have been opened, and a large number of hillmen persuaded to take to modern farm practices. Apart from the good work done by the local officials, the Army has been sending teams drawn from its medical, veterinary and dairy services to serve the people in inaccessible areas.

Inevitably the increasing politicisation of the people will create new problems. The Prime Minister, Mrs. Gandhi herself referred to one on the inauguration of ARUNACHAL PRADESH when she cautioned her audience at ZIRO against sacrificing what was good in their culture in their quest for modernity.

The book contains a fascinating account of the people inhabiting the Himalayan and Indo-Burmese border-lands and is an essential reading for one interested in the Himalayan borders. The period covered in the book extends to the Chinese invasion of NEFA in 1962 which the author experienced at first hand.

N.L.K.

THE SOVIET ECONOMY : AN INTRODUCTION

by Alec Nove

(Published by Allen & Unwin, London, 1961) pp 328, Price 25s

THE Soviet Economy—An Introduction', as the title denotes, is an introductory book on the Soviet economy for a non-specialist. The book has been divided into three parts. Part I : 'Structure', deals with production Enterprises, administration, planning and policy decision, public finance credit, wages and prices. Part II : Problems, brings out the difficulties and bottlenecks arising in the working of the economic

institutions within the structure and the methods devised to solve them. Part III : Concepts and Ideas covers some basic concepts of Soviet economics, the economic laws and finally an assessment of the Soviet economy including a chapter which is both interesting and controversial, which compares Soviet economy with that of the West in terms of efficiency and future development. At the end of the book are given an index containing a note on the availability and reliability of Soviet statistics, a bibliography, a subject index and an index of names.

That the Soviet system after the October Revolution and especially since 1928 when the first five-year plan was drawn up, has achieved rapid growth is now acknowledged by experts. These plans have contributed significantly towards strengthening the economic base and its systematic development. But the book does not provide a detailed account of the progress generated by these plans. Perhaps this may be, as the author says, due to non-availability of sufficient and reliable data which can be had from, the Soviet sources.

However, a summary of the performance of the eighth five-year plan (1966-70) released by Soviet official sources shows an increase of 39 per cent in the national income, 20 per cent in wages and salaries and 53-40 per cent in remuneration of collective farmers. Simultaneously production and consumption of consumer goods especially durables, modern housing and diverse services and also linen, woolen fabrics and knit goods have increased at a high rate. There has been increase in the production of meat and meat goods—15 per cent, milk and other dairy products—18 per cent, eggs—19 per cent fish and fish products 33 per cent, fruit—18 per cent, sugar 19 per cent, textiles 12 per cent and leather footwear 29 per cent. It is claimed that in USSR 71 families out of every 100 have now a radio receiver and record player, 56 in every 100 have a TV set as against the 26 in 1965. The new auto plant in Togliatti on the Volga turns out 30,000 motor cars annually. Similarly in the heavy industries such as electric power, engineering, precision instruments, and radio-electronics, oil and gas, chemicals and petro-chemicals, oil and pig iron and steel, rapid growth and high percentage of development is stated to have been achieved. Agriculture has also registered an 18 per cent increase in production.

The author quotes Bukharin, *Pod Znamenem marksizma* and some Soviet slogans to suggest that economic laws in the socialist economic system do not and cannot assist (pages 266 and 267) but proceed to discuss 'The law of value and its application (pages 271-276). In fact laws and in particular economic laws have played a very vital role in strengthening the economic foundation, developing economic and ushering in economic prosperity in Soviet Russia by first destroying the old

economic structure and outlining the new socialist state during 1917-21, then adopting the New Economic Policy beginning 1921, and finally from 1928 by launching a series of five-years plans. This is supported by *Soviet Legal System*—published by The Civil Military Law Journal, New Delhi which throws ample light on the part played by 'Law' in the reconstruction of the Soviet Economy.

This book 'The Soviet Economy' is to acquaint the reader who wants to know about the structure and problems of the Soviet economy. Although introductory in nature, it has covered a large number of topics and gives a good account of the economy of the USSR. The author has not argued for or against the Soviet system but has left to the reader to form his own opinions as the Soviet Economic System, like any other system has both its achievements and weaknesses.

H.S.B.

WILLY BRANDT A PORTRAIT OF THE GERMAN CHANCELLOR

by Ho Bolesch and HD Leicht

(Published by Thompson Press, New Delhi, 1970) pp 84, Price 12.00

THE book is claimed to be a comprehensive biography and a portrait of Willy Brandt, the German Chancellor.

Biography is, "the history of the life of an individual" and history is, "a systematic account of the origin and progress." Perusal of the book leave one in no doubt that it is mere a narration of events and that too a sketchy one."

Similarly, portrait is, "the likeness of a person—a vivid description in words". The book does not measure to this description too, unless photographic portraits are meant to serve the purpose, of which there are plenty in the book.

Willy Brandt, a driver's grandson from a poor family comes to occupy the high office of Chancellor in the country. A remarkable feat indeed, but what made him reach this high position has remained untold. No link of cause and relation has been developed.

A boy from the working class goes to grammar school on scholarship, speaks volumes for his intelligence. There, he is treated as an 'outcast' and thus he becomes reserve. To escape Nazi persecution, in 1933, he flies to Norway (where he studies Philosophy and Modern History in Oslo University); visits Spain in 1936, to report on Civil war; again he escapes to Sweden, when Norway is invaded in 1940 and marries a Norwegian girl Carlot in Stockholm, to be seperated shortly thereafter, are all narration of events, though quite informative in themselves.

Willy finds it hard to forget the sharp taunt his grandfather (when laid off) administered, for accepting 2 loaves of bread from the old man's boss, saying, "Take those loaves back, where they came from at once. We don't want charity, we want our rights. We aren't taking bribes from the enemy." This left an indelible imprint on his tender mind that, "we" meant poor people and "enemy" meant rich people. The long arduous route he had traversed to gain the Chancellorship, after two defeats in 1961 and 1965, left him a chastened man. He has no inhibitions and carries no ill will against the rich, though problems of the poor always have priority with him.

He is an intelligent, untiring man, with politics as his first love. He is considered to be amongst, "the best dressed German political figures." To foreigners, "Willy" is, "all warmth" vigour and self assurance.

Willy's second marriage in 1948, with another Norwegian girl Rut, with charm, wisdom and understanding, proved an asset in his career and brought him all the happiness. She is stated to be a perfect hostess and a wonderful mother to her 3 sons.

Willy Brandt's is an open mind. His down to the earth practical approach; sincerity of purpose and dynamism, besides winning him the Nobel Prize for Peace, has won him acclaim the world over. He has given new direction to German foreign policy and has brought a fresh outlook to bear on East & West relations in Europe.

In a book of 84 pages, 24, cover appendices, facsimiles and index. Of the remaining 60, 2 valuable pages have been further utilised to describe Foreign Ministers' residence, which Willy continues to occupy as the Chancellor. Surely authors could not have done full justice to develop an outstanding personality like Willy Brandt's, logically and analytically in the short space available. It is rather, a little confusing, as to how the two joint authors in their own merit, failed to rise to the occasion.

It is a book neatly printed on thick quality paper (a rarity these days), with equally good photo reproductions. The authors can boast of brevity, but at what cost? What exactly is so outstanding and unusual about Willy, which made him reach the high pedestal and warrant writing of the biography, they have failed to bring out.

It provides birds' eyeview of Willy Brandt's life and would make a useful reading for a layman.

M.S.

CORRESPONDENCE

Correspondence is invited on subjects which have been dealt within the Journal or which are of general interest to the Services.

To

The Editor
Journal of the United Service Institution of India
New Delhi

I

"QUO VADIS—THE TECHNICAL COMBAT ARM"

Dear Sir,

MAJOR YOGI SAKSENA's letter of 10 Aug. 71, makes an extremely interesting reading. However hard one may try, one cannot help feeling that while writing it, he has lost himself in the vortex of emotions and hence not only his narration of facts is wrong, but he is completely devoid of realities.

He has gone at length to explain the intake of Corps of Engrs from Indian Military Academy. There is no doubt large number of cadets opt for Corps of Engineers more so those who are in higher order of merit as they are certain to get their choice but a slightly deeper treatment of the subject would reveal its bonafides, one has to understand the mental make up of the present day cadet. When he opts to be a sapper, what he is opting for is relatively easy, stable and comfortable life and also has an eye on his ultimate rehabilitation.

Another aspect that requires to be put in correct prospective about mediocre infantry officers, (as Maj YOGI SAKSENA puts in) is his contention about the intellectual superiority of the technical arms. A comparison between the career of Infantry and sapper officers will show that an infanteer by the times he comes in zone for higher commands, has a spectrum of experience of operating in varried terrain and military environments, while by and large his sapper counter part has on his tail among the back ground of such officers and more often than not it would be a non infantry officer indulging in the technicalities of sighting LMGs.

The comparison with IAS by Saksena is one more instance of lack of understanding of a technical officer, about infantry, regarding which he claims to have the profound knowledge by virtue of its being basic arm. It would be better to remember and live by the fact that in its own context infanteering has itself become a specialised subject. It definitely cannot be compared with file ridden bureaucrat. Sooner this realisation comes to all of us, better it would be for the army, for lack of it, one day, may prove to be our Waterloo.

15 RAJPUT
C/O 56 APO
27 April 72

Major V. Mehta

The Editor
Journal of the United Services Institution of India
New Delhi
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"NEED FOR ORGANIC AIR ELEMENT FOR ARMY AND NAVY"

MAJOR SJS Ahluwalia's article (July—September 1971) raises a controversy about the role of Air Force in relation to Army and Navy.

His main contention that basic function should not be split between the Army and the Air Force will be accepted by any military thinker. But beyond this, as he goes into the details to show the need and means of creating an organic Air element for Army and Navy, his arguments fall short of conviction.

He wants to have an Air Arm of the Army to the formation level of Aviation Corps HQ mainly for Tactical Reconnaissance, Tactical Air Mobility, Logistic Support and in addition, Casualty Evacuation, etc. His arguments are not tenable in the perspective of our country on organisational and financial grounds. Organisationally, Tactical Air Force attached to the Army at Corps level is responsible for the above jobs. The Army Commander is supreme in his theatre of battle and TAC is to provide him all that he wants from the Air Force. This system developed over the years and perfected during the world war II, has been working successfully in our country too. The 14 days war between India and Pakistan has further proved the efficiency of other things, a degree and tenures with MES and Border roads. No doubt during all this, he would have gained considerable theoretical knowledge of the intricacies of modern strategy and tactics, by devoting his time to study of pamphlets and manuals and be in a better position to pass examination and brag about his intellect, how far he is in position to apply this to the realities of the ground is questionable. In spite of all the credence for intellect that Saksena takes instances are not lacking where staff officers

not belonging to combat arms have given orders without realising the inherent implications of it.

Major Saksena has quoted MacArthur at length. There is no doubt in any one's mind that he was one of the greatest soldier and an intellectual giant. However, if anything that helped him to reach the dizzy heights was his long experience with the line. Besides all that how many MacArthur are born every day and there is no dearth of such military intellectual giants who do not owe their origin to Corps of engineers.

Indian Army is an infantry oriented army and is bound to remain so, as our borders and economy dictates that. The outcome of any war is going to be decided by the correct induction and employment of infantry, and this only a person who has lived through it rather than who has read about it, is capable of doing. The fact that it is only an infanteer who at the level of a unit commander gets experience in handling of complete orchestra of arms and services, when these are placed under his command for particular tasks, goes long way in training him to fit into his role as higher commander. On the other hand his technical counter part would have had the confined experience of carrying out the engineer tasks whatever they may be, he would have certainly had the advantage of seeing every thing from a grand stand, and it is this advantage which is being exploited. However it lacks immensely in its deeper application.

No doubt it should be the best men who occupy the higher echelons of military hierarchy. But what is required to be corrected is the criteria of selection of the best men. This should consist of happy blend of experience backed by knowledge.

There is no doubt in any one's mind (even if Major Saksena does not agree) about the inherent advantages under which an infanteer works as compared to his technical counter part. The reservations of vacancies for staff college requires to be seen in this light rather than the self proclaimed intellectual superiority of technical officers.

The sitting of LMC by senior officers has for long been source of frolics to the young officers. However the seriousness of its quotation by Major Saksena requires to be shunned. It would be interesting to know of the system. Because of the TAC formation working directly under the Supreme Commander of a particular theatre, there is no question of functional split.

As Major Ahluwalia envisages, if the Army forms a separate Aviation Corps, our military system will lose the organisational cohesion. Army will deviate from its primary role and encroach into the other services only to dissipate its energy.

From the economic point of view, the arguments are not convincing. If the Army forms a separate Aviation wing with its training and servicing facilities, it will mean duplication of the same job. This will bring a heavier burden on our defence budget without corresponding increase in the punch.

Finally, any attempt in this direction will increase inter-service rivalry. In these days when our Armed Forces are operating as an integrated whole with the best possible co-ordination and co-operation, this will go against the drift and encourage empire building by the bosses. It is futile to mention about the U.S. Army because U.S. Army with its global role faces a different task while our Army is primarily intended to be a defensive force within the limits of our territory.

FLT. LT. K.P. SEN.

Air Force Station,
TAMBARAM.

3

YOUR OWN EASE COMFORT AND SAFETY

WE are, indeed, grateful to Brigadier N.B. Grant for most objective honestly intellectual interpretation (April-June 1971 issue of USI Journal) of Lord Chetwood's celebrated words, addressed to the officers in the services. No doubt, direct or apparent meaning of these words is, also, important and definitely every good officer does keep it in mind, but the meaning shown by Brig. Grant needs serious consideration and understanding in the correct perspective, as brought out by the Brigadier himself. His article, being interesting and lucid, is enlightening as well.

It will definitely do a lot good to us as soldiers, if we cultivate healthy moral courage to get rid of blind "yes—boss, attitude" within the framework of discipline and loyalty. A junior may not necessarily always be less competent and knowledgeable. Brig. Grant correctly says, "we must encourage the officer to always tell his superior what he should know, and not what he would like to hear." This requires dynamic thinking at all levels, beyond the rigidities of mental 'complex' and ego. Same aspect is equally important in relationship between political leadership and the military, in a democratic country. Honest nationalism must override individualism at any level of leadership. In this regard, Brig. Grant, in his article, has been able to bring out truth in a straight forward manner.

MAJOR C.B. VERMA.
Engrs.

No. 1 Long E/M Course,
C/o Hq. Bombay Sub-Area, Colaba
BOMBAY — 5.

SECRETARY'S NOTES

ANNUAL SUBSCRIPTION

I would like to thank all those members who paid their subscription so promptly at the beginning of the year. To those of you who have not yet paid, may I remind you that your subscription was due three months ago on the 1st January. Would you please, therefore, put a cheque in the post TODAY. There are some members who have also to pay their subscription for 1971. They are requested to make the payment for both the years to avoid unnecessary reminders.

ADDRESSES

Members are requested to notify changes of addresses immediately to this office. When Journals and correspondence are returned undelivered by the post office we have to write to the Service Headquarters concerned and it takes some time before we get the new addresses.

SUGGESTIONS FOR THE JOURNAL

The USI Journal is in its 102 year of publication. As you will, no doubt appreciate, the Institution spends a great deal of its funds on producing the publication. We would like to have your comments, criticism and suggestions so that we may improve this publication to meet your requirement.

NEW MEMBERS

From 1st January 1972 to 31st March 1972, the following new members joined the Institution :

ABBOTT, Major N.K.
ADVANI, Major H.P.
AHLUWALIA, Major J.
ANAND Major L.K.
ASHOK, Plt Offr S.V.
AUJLA, Major G. S.
BAJWA, Major J.S.

BAJWA, Lisut K.S.
BAL, Major N.P.S.
BALBIR SINGH, Major
BANGIA, Major O.P.
BEHL, Major A.J.S.
BHAGWAN SINGH, Major
BHAGWANT SINGH, Major

BHAR, Flt Lieut B.S.
 BHARAT BHUSAN, Major
 BHARGAVA, Captain A.K.
 BHASIN, Major N.
 BHATIA, Captain P.P.
 BHATTACHARJEE, 12/Lieut A.K.
 BIJAPUR, Flt Lieut S.F.
 BRAHMA NAND, Major
 CHADHA, Major S.L.
 CHAHAR, Major R.S.
 CHAKROBORTTY, Major A.
 CHARAN, Shri J.K.
 CHATRATH, Captain V.P. (Life)
 CHAUDHARY, Major C.P.
 CHAUDHRY, Major R.K.
 CHAUHAN, Flt Lieut R.S.
 CHOWDHURY, Major M.S.
 DATA RAM, Major
 DEEPAK KULDIP SINGH, Captain
 DESH RAJ, Major
 DEV, Major P.K.
 DHANOTA, Major R. S.
 DHARAM SINGH, Captain
 DHILLON, Major A.S.
 DHILLON, Flt Lieut RS.
 DIWAN, Sqn Ldr P.D.
 DIXIT, Major V.B.
 EDWIN, Captain R.B.K.
 FERNANDES, Major A.E.
 GADKAR, Captain A.V.
 GANDHARV SINGH, Captain
 GANDHI, Major S.L.
 GANGULI, Major H.C.
 GEORGE, Wing Commander T.C.
 GILL, Flt Offr H.S.
 GILL, Captain T.J.S.
 GOUR, Major S.K.
 GREWAL, Flt Offr M.S.
 GREWAL, Major S.S.
 GROVER, Captain B.P.
 GULATI, Major O.K.
 GULRAJANI, Captain R.K.
 GURMEL SINGH, Captain
 GURUKIRPAL SINGH, 2/Lt (Life)
 HANS RAJ, Major (Life)
 HARMAHENDRA SINGH, Major
 HASIJA, Major I.K.
 HOODA, Lt Col H.K.
 INDERJIT CHOPRA, Shri
 JASBIR SINGH, Major
 JASROTIA, Major K.S.
 JOHN SELIARAJ, Major (Life)
 JOGINDER MOHAN, Major
 JOSHI, Captain D.K. (Life)
 KAHN, Captain W.S.
 KAILASH, Major D.S.
 KAPIL VARMA, Captain
 KANG, Major D.S. (Life)
 KARIAPPA, Major S.K.
 KEKRE, Captain P.K. (Life)
 KHAN, Captain A.A.
 KHAN, Major M.J.
 KHANNA, Major A.K.
 KHANNA, Captain J.N.
 KHATRI, Captain R.C.
 KHURANA, Captain K.S.
 KOCHAR, Major S.B.S.
 KRISHNAN, Major V.G.
 KULKARNI, Major A.B.
 KUNCHERIA, Captain K.K.
 LAMBA, Major H.S.
 LAWRENCE, Major H.
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 MANMOHAN SINGH, Captain
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 MATHUR, Major V.K.
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 MEHAR SINGH, Major
 MISHRA, Major G.J.

MISRA, Commander S.M.	SHARMA, Major S.D.
MOHANTY, Major S.B.	SHARMA, Captain S;K.
MOHINDRA, Major S.K.	SHIVDEV SINGH, Major
MUKERJEE, Captain B.B.	SHUKLA, Sqn Ldr R.S.
MUKERJEE, Major N.K.	SIDHU, Captain S.S.
MAG, Major S.K.	SINGH, Captain C.V. (Life)
NANDA, Captain N.P.	SINGH, Captain S.K.
NARAIN SINGH, Captain	SINH, Flt Lieut G.P.
NARANG, Captain J.S.	SINGH, Captain I.P.
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RANGWALA, Captain F.T.	VERMA, Major K.G.
RANJAN SEN, Major	VIJAY KUMAR, 2/Lieut N.
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SHARMA Major H.K.	YADAVA, Major M.S.
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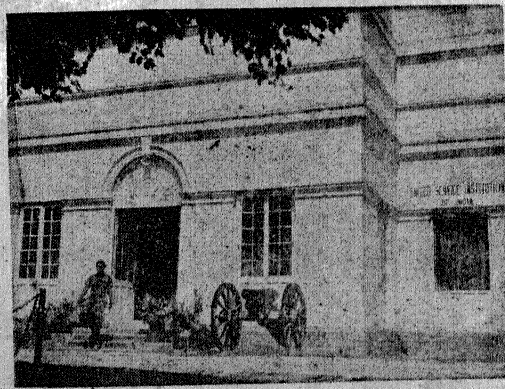
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